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ORIGINAL ARTICLES.

AUTO-INTOXICATION IN ITS RELATIONS TO THE DISEASES OF THE NERVOUS SYSTEM.

Read before the Illinois State Medical Society.

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We are at the beginning of a new era in the pathogenesis and treatment of the neural diseases. The discovery of the neuron has resulted in making clear some of the dark passages in physiology and pathogenesis, and the dynamic changes produced in these neurons by alcohol and other extrinsic poisons, that have been so marvelously demonstrated by Andriezen, Van Gieson and others, and the reasonable inference that intrinsic poisons are equally powerful in establishing pathologic conditions, open up a new line of important therapeutic investigation.

The primary form of the psychoses from the beginning has been called melancholia, "black bile," because of the relation ever recognized between mental depression and perverted action of the great viscus of the abdominal cavity, and in more modern times quaint old Abernethy emphasized the same etiologic thought when he gave utterance to the aphorism that the best medicine for the "blues" is the blue pill. That various nervous diseases are produced by alcohol, lead and other extrinsic poisons, and by the toxins of various infectious diseases, by uremia, by sunstroke and by experimental thyropravia is universally accepted, and moreover, the neuro-cellular lesions that are produced by some of these poisons have been demonstrated. Auto-intoxication includes the results of toxins that are produced within the body by normal and abnormal chemic activity, and those that follow from the suppression or disturbance in the functions of such organs as the thyroid and other glands that produce constituents necessary to healthy nutrition, and those toxins that are produced by germs in the gastro-intestinal tract and elsewhere about the body.

Albu suggests the following general classification of auto-intoxication:

1. Auto-intoxications from the suppression or disturbance of the functions of an organ, *i.e.*, auto-intoxication of thyroid gland, pancreas, liver, supra-renal capsules, producing myxedema, diabetes, acute yellow atrophy and Addison's disease, respectively.

2. Auto-intoxications which occur from anomalies in general metabolism without definite localization, such as rheumatism, gout and oxaluria.

3. Auto-intoxications which are caused by the retention of the physiologic products of metabolism in different organs, such as poisoning due to extensive destruction of the skin by burning, carbonic acid poisoning, uremia and eclampsia.

4. Auto-intoxications due to the over-production of physiologic and pathologic products of the organism, such as ammonemia, acetonuria, diaceturia, diabetic coma, Basedow's disease, etc. The most frequent source of this intoxication is the gastro-intestinal tract.

In normal digestion we have ultimately elaborated absorbable products, soluble albuminoids, emulsified fat, glucose and maltose. In indigestion we have numerous aromatic, nitrogenous and acid compounds produced that are poisonous. In the stomach the absence or diminution of free hydrochloric acid results in putrefaction, and in this viscus and in the intestines the presence of micro-organisms result in decomposition, and among the resultant toxic products thus produced we have lactic, acetic, succinic, carbonic, the aromatic and the volatile fatty acids, indol, skatol, phenol, peptinatoxin, ammonia, methan, sulphuretted hydrogen, methyl, mercaptan, etc.

The liver acts as a barrier to guard the organism against the invasion of these various poisons and may transform them into innocuous substances or eliminate them by the bile as non-absorbable chemic combinations. The skin, kidneys, bowels and lungs assist the liver in eliminating these products.

Bouchard[1] has demonstrated that the normal man manufactures enough of these several poisons each day to destroy the body if retained within it; he has separated from the urine of such a man, seven toxic substances, two of which will produce convulsions, one myosis, while one is antipyretic, one is narcotic, one is diuretic, and one is a sialagogue. The toxicity of the urine in the healthy man varies according to numerous circumstances, such as cerebral and muscular activity, sleep, diet, etc. The urines of sleep are usually less toxic than those of the waking state. The urotoxic co-efficient varies with disease; the urine of a uremic patient is not toxic, because the poisons which should be eliminated are retained. The urine in mania is less toxic and in melancholia more toxic than normal. The urine from a maniacal patient when injected into an animal will give rise to excitement and convulsions; that from a melancholiac to depression, restlessness and stupor.

Morgan[2] found abnormalties in the urine in 70.6 per cent. of the cases of insanity; such a high specific gravity, albumin, excess of phosphates, urates, uric acid and oxalates.

Agrotini[3] noticed the gastric disturbances, the hyperchloridity and the urinary toxicity with the epileptic attacks, and very wisely concludes that auto-intoxication from altered tissue change and digestive disorder has an important part in the mechanism of the attack.

Somers[4] concludes that in all cases of insanity there is a deterioration of the blood, showing a diminution

of red corpuscles, an increase in white corpuscles, and a low percentage of hemoglobin; that cases of melancholia show the lowest amount of hemoglobin; the eosinophilic cells are absent in the majority of the cases, and that poikilocytosis is characteristic of this disease. That the eosinophilic cells are increased in mania, and that there is an intimate relation between an hypertrophied heart, sclerosed arteries, lowered blood nutrition and the course of mental diseases, and asks this important question, "Is it possible by the use of some drug where you increase metabolism to also increase the number of eosinophilic cells and thus free the system of the toxic influences which are supposed to be the cause of melancholia?"

Contributing to this toxemia of the brain is doubtless the peculiar arrangement of lymph channels around the blood vessels; the blocking of these channels, a pathologic condition not unreasonable, would result in auto-intoxication of this organ. The psychoses that are probably of auto-toxic origin are the manias, primary melancholias, whether acute, subacute, or chronic. The nervous diseases that have probably the same origin are neurasthenia, epilepsy, tetany, chorea, exophthalmic goiter, disorders growing out of rheumatism and gout, and probably many others.

Van Gieson [5] has demonstrated, in these toxemias, an acute parenchymatous degeneration of the neuron from which recovery, both of structure and function, may take place, provided the poison acts only for a brief period, but if the action continues, the degenerative changes eventuate in the irreparable destruction of the cell.

The gastro-intestinal tract is the theater of the most important of the operations of auto-intoxications, and the first important factor is dilatation of the stomach. Bouchard [6] has most graphically described the consequences of this pathologic condition, and it is unfortunate that our means of diagnosis in these cases are so meager. The second important factor is intestinal indigestion, and the third is coprostasis. The urine will often give important aid to diagnosis, and it should be tested for indican and the total sulphates, and will show increased ratio of the former and diminished ratio of the latter, although ethereal sulphates will be increased in auto-intoxication.

The treatment of these cases must consist in the treatment of the pathologic condition associated with it. First to be considered is the treatment of gastrectasis, and, in this, diet is of the first importance. The food must be very digestible, concentrated, so as to give least taxation to the motility of the stomach. The meals should be taken three times a day with the longest possible interval. It is necessary to avoid, as much as possible, everything that can have a tendency to undergo fermentation. Alcohol, which furnishes acetic acid, especially red wines, beers, tea, coffee, carbohydrates and fat are objectionable. The best diet would be a predigested one, peptonized milk, malted milk, somatose, especially the combinations of malted milk and somatose. The best dietary is an animal one, tender beef, mutton, fowl free from fat, eggs, fish, the smallest possible allowance of bread, peas, asparagus, tomatoes, peaches, grapes, apples and but very little water, and this should be taken hot before meals. If hydrochloric acid is deficient in the stomach contents, as it usually is, then hydrochloric acid may be administered after eating. It is without doubt the best of the stomach antiseptics; with this may be administered the simple bitters. Strychnia is also a drug of great value, because of its power to restore tone to the debilitated muscular fiber. The intragastric application of faradism, the cutaneous use of faradism and of static electricity, all alike stimulate peristalsis and promote the nutrition of the muscular coats of the stomach. Abdominal massage is also of service. Lavage is necessary in all of these cases, and it should be used daily; it can best be performed a half hour before breakfast, or dinner. The red-gum soft-rubber tube, with funnel attached, is the simplest and best apparatus; the patient can soon be taught to use it himself. The water should be warm, and with some mild antiseptic, such as sodium borate, sodium salicylate, or such as may be preferred. About a pint should be introduced at a time, and then this should be siphoned out and followed by another and another until it returns clear. It may be necessary to change the climate; a high altitude for some, a sea level for others, with freedom from care, distraction by travel, or some pleasurable occupation.

The treatment of intestinal dyspepsia calls first for purgatives, and the salines meet the indications best. The combination of sodium sulphate with sodium phosphate, four parts of the first to one part of the second, is an admirable one. The best intestinal antiseptics are beta-naphthol, benzo-naphthol, bismuth salicylate and guaiacol carbonate. Of this valuable series benzo-naphthol is probably the best, because it is but little toxic and does not irritate the kidneys. It should be administered in ½ gram doses, four times a day.

Colonic impaction is a very frequent condition in chronic invalids and is very frequently overlooked. For its relief cathartics are not sufficient. Colonic flushing, in the knee-breast position, with normal saline solution at body temperature, with abdominal massage, must be used. The flushing will frequently have to be repeated several times before the accumulations are removed. It should be followed with aloetic laxatives and intestinal antiseptics. As a rule, all of these cases of auto-intoxication will require hematinics, Blaud's mass, freshly prepared, combined with extract nux vomica and arsenic, have given me the best results.

The treatment of Albu's first class of auto-intoxications, of those due to the suppression or diminution of the secretions of some gland, suggests the question of organo-therapy, and I think we may say that the great expectations of this new therapy have not been realized. Spermin, cerebrin, medullain, cardain and all such have failed to produce the results promised; but thyroid, bone marrow and nuclein have in some cases given results that are surprising. No one can dispute the value of thyroid extracts in myxedema, cretinism, acromegaly, obesity, tetany, rosacea, ichthyosis, scleroderma, some forms of syphilis and some forms of insanity, especially the adolescent, climacteric and puerperal cases. The value of red bone marrow in certain cases of anemia seems well established, and the nucleins seem to have the power of increasing the bactericidal capacity of the blood and in anemia following infectious diseases; in gonorrhea and in tuberculosis, benefit has sometimes been obtained.

CONCLUSIONS.

1. Some of the nervous diseases are the product of auto-intoxication.

2. This autotoxis produces a parenchymatous

degeneration of the nervous system, acute or chronic, that may result in the destruction of the structure and function of the nerve cells. (Van Gieson and Andriezen.)

3. The peculiar arrangement of the lymph channels in the nervous system makes auto-intoxication of the brain possible by the blocking of these channels.

4. The principal factor in this autotoxis is a disordered gastro-intestinal tract.

5. Gastrectasis, intestinal dyspepsia and coprostasis are ordinary conditions producing gastro-intestinal intoxication.

6. The diagnosis is to be made; *a*, by a regional examination; *b*, by examination of the gastric contents, and *c*, by examination of the urine.

7. The urines will show increased amounts of indican, diminished total sulphates, and an increase in the amount of ethereal or conjugate sulphates.

8. There will also be found, usually in consequence of this autotoxis, a diminished hemoglobin record and a diminished number of red blood corpuscles.

9. The treatment should consist of lavage, enterocclysis, gastric and intestinal antiseptics, laxatives and hematinics.

BIBLIOGRAPHY.

1 Auto-intoxications in disease.
2 State Hospital Bulletin, Vol. 1, No. 1, pp. 128 to 131.
3 Rev. Speremental, xxii, 1896.
4 State Hospital Bulletin, Vol. 1, No. 1, p. 82.
5 State Hospital Bulletin, Vol. 1, No. 4.
6 Auto-intoxications, Lectures on, p. 150 at seq.

SURGICAL TREATMENT OF GASTRIC ULCER.

Read before the Iowa State Medical Society, 1897.

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Surgical interference for the relief of the ulcer of the stomach and its complications, although of comparatively recent date, has by the brilliancy of its results become a well established procedure and promises much for the future. In considering its applicability I shall be as brief as possible, dwelling only on those conditions in which it has been proven of unquestionable value. Although the radical cure of gastric ulcer has been advocated, and attempted by excision of the ulcer itself, the results have not as yet justified the adoption of this measure as the routine treatment for this condition, nor is it warranted by statistics, as according to Welch about 85 per cent. of all cases of ulcer of the stomach heal spontaneously.

Therefore, I shall in this paper consider the value of surgical interference in those cases of gastric ulcer complicated by one or more of the following conditions: Perforation, hemorrhage, cicatricial contraction and adhesions to neighboring viscera or the abdominal wall.

Perforation of a gastric ulcer is always a very serious accident and in the majority of cases the only hope for the recovery of the patient is offered by surgery. If the perforation occurs rapidly and into the general peritoneal cavity, no time having been afforded for the formation of limiting adhesions, the patient unless relieved by surgical intervention rapidly succumbs to acute septic peritonitis.

In these cases the surgeon should never hesitate, as experience has demonstrated that the successful cases are those in which the operation was performed within a few hours following perforation. Delay can mean nothing but a rapidly fatal infection.

An incision should be made in the median line between the umbilicus and the sternum, and if the stomach is not then readily accessible another incision at right angles to the first will render it so. First, locate the position of the perforation and effect its closure before attempting to remove the extravasated gastric contents.

In by far the greater number of cases closure may be best affected by turning in the peritoneal edges and retaining them in position with Lembert sutures. In some cases, owing to the diseased condition of the stomach wall, a large portion of it may require inversion. Again, a portion may be resected and the opening closed. It is extremely fortunate that perforation of ulcers of the anterior wall of the stomach is much more common than of those situated on the posterior, as in the latter case the perforation is accessible only with the greatest difficulty, if at all.

As soon as the perforation has been closed, the peritoneal cavity must be carefully cleansed of all extravasated matter, first, by dry gauze sponging and then by irrigation with large quantities of normal saline solution. Irrigation, as frequently practiced, employing three or four quarts of fluid, is worse than useless, as with such a small quantity the extravasated particles are only disseminated throughout the peritoneal cavity and not washed out. In all cases, gallons of hot normal salt solution should be used.

Following the irrigation, the peritoneal cavity should again be sponged dry and ample gauze drainage provided. If evidences of general peritonitis are already present it is well to supplement the ordinary drainage with gauze wicks placed at the most dependent portions of the cavity and carried out through incisions in the loin.

M. H. Richardson [1] has collected forty-four cases of operation for this condition, with ten recoveries. When we consider that all these would have died without operation, these results are gratifying. The same observer also states that the percentage of recoveries during the last two years was much larger than in those cases operated on before that time, indicating that the results are improving with experience.

Sometimes perforation of a gastric ulcer occurs so slowly that time is allowed for the formation of limiting adhesions and we have a localized abscess resulting. This abscess may be superficial deep or subdiaphragmatic. Weir [2] urges that left-sided pyoneumothorax with a previous history of gastric symptoms should be suspected as due to a perforated ulcer of the stomach. These abscesses should be freely opened and drained, following the technique employed in pelvic or abdominal abscesses due to other causes, and the perforation closed in the usual manner. Cases have been reported in which perforation was followed by neither general peritonitis nor localized abscess, and a complete spontaneous recovery was made, but such a fortunate termination is extremely rare.

Again, adhesion has occurred between the stomach wall and a neighboring viscus or the abdominal wall before perforation has occurred, the ulcer being thus provided with a new floor and infection prevented. The resulting adhesion, however, may occasion so much functional disturbance and pain as to necessitate an operation for its relief.

The abdomen should be opened, the adhesion found and separated and the opening into the stomach closed

1 Dennis' System of Surgery, Vol. iv.
2 Annals of Univ. Med. Science, 1893.

as indicated above. The following case illustrates this condition and is interesting from the fact that the adhesion was separated without re-opening the ulcer.

Case.—E. J., a female aged 32 years consulted me regarding severe gastralgia and digestive disturbance of about one year's duration. She complained of very acute abdominal pain coming on soon after eating, which was frequently attended with vomiting. Coughing, sneezing, etc., were attended by the most excruciating pain. She had been constantly under treatment for one year, her ailment being diagnosed as dyspepsia, and was almost discouraged concerning her condition. Owing to the difficulty with which food was retained in the stomach, she was extremely emaciated. Temperature was 100, pulse 85. An examination of the abdomen revealed, upon palpation, a tender indurated spot about one-half an inch above and the same distance to the left of the umbilicus. This, together with the symptoms above enumerated, led to the diagnosis of an adhesion between the stomach and the abdominal wall, with possibly the formation of an abscess. In addition to the usual preparations for the celiotomy, the stomach was thoroughly washed out. The abdomen was opened in the median line and the adhesion existing between the anterior surface of the stomach and the abdominal wall was readily found. This point was walled off from the surrounding tissues with gauze sponges and the adhesion separated, keeping close to the abdominal wall. No pus was present and the stomach wall at this point was found to be intact, the ulcer having apparently healed. The ulcerated area, however, was folded in and retained by close suturing. As no abscess existed and the stomach had not been opened the abdominal incision was closed without drainage. The troublesome symptoms immediately disappeared and, fifteen months after operation, had not recurred. The patient rapidly regained her lost weight and has since been in perfect health.

The interesting features of this case are:

1. That the ulcer should have occasioned such extreme functional disturbance and established so firm an adhesion without being attended with hemorrhage and more of the classic symptoms.

2. That after so active an ulcerative process the lesion should undergo such complete spontaneous healing that the operation revealed practically no trace of it except the adhesion and a slight induration of the stomach wall.

3. That the condition was easy of diagnosis owing to the induration which could be plainly felt and the typical disturbance of function. (Most authorities state the existence of adhesions between the stomach and contiguous structure can only be surmised without an exploratory incision.)

If, during the course of a gastric ulceration, alarming hemorrhage should occur and death seems imminent from this cause, the abdomen should be opened, the ulcerated area excised and closure effected by suturing. If for any reason this can not be accomplished the stomach must be opened and the bleeding vessel ligated.

Cicatrical contraction accompanying the healing of a gastric ulcer does not usually occasion enough trouble to demand operative relief unless the ulcer is situated at the pylorus. Contraction and cicatrization occurring at this point may, by occluding the pyloric orifice, occasion the troublesome train of symptoms consequent upon the dilatation of the stomach which ensues.

Should this occur surgical intervention is imperative. Several procedures have been advocated for the relief of this condition, but I think we may adopt pyloroplasty, as performed by Heinecke, as the operation of election and I can not conceive of a pyloric stenosis due to the above cause in which it would not be applicable.

In all operations on the stomach strict adherence to the following points is essential.

If the case be one demanding immediate interference, the feeding of the patient should be so regulated that at the time of operation the stomach will be empty and by copious irrigation the intestine rendered as free as possible from fecal matter.

Just before operating, the stomach should be thoroughly washed out. After the stomach is exposed, if perforation exists, and extravasation has occurred, before attempting to remove the extravasated material the opening in the stomach must be found and closed. The escaped stomach contents may be best removed from the peritoneal cavity by dry gauze sponging followed by copious irrigation with normal salt solution and the cavity again sponged dry.

If extravasation has not occurred such an accident must be prevented by immediately surrounding the operative field with sponges walling off the general cavity of the peritoneum.

In those cases where the perforation occurs upon the posterior wall of the stomach and is inaccessible for suturing, further extravasation must be prevented by carefully placed gauze packing. The writer has encountered such a condition twice in gunshot wounds of the abdomen.

In all cases where extravasation has occurred ample gauze drainage must be provided and if evidence of general peritonitis is present, counter openings for drainage in the loin are indicated.

Drainage must be maintained according to the requirements of individual cases. There can be no fixed rule regulating its withdrawal.

Great care must be exercised during the evacuation of a localized abscess following perforation, that its limiting walls be not broken and a general infection invited. It is recommended that these cavities be cleansed by dry sponging, as the force of an irrigating stream is dangerous.

In separating adhesions between the stomach and neighboring parts by dissection, strive to avoid opening into the stomach cavity.

If after separation the adherent area of the gastric wall appears weak, turn it in and suture.

For stomach wounds in general, the best suture, is an interrupted Lembert of fine silk. In these operations time is an important consideration and they should be rapidly performed, every detail being carefully arranged before making the incision. The after-treatment of all operations upon the stomach is of great importance. Nothing should be allowed by the mouth until the third or fourth day, all nourishment being administered by rectum. Mouth feeding when begun should be done with great care for some time, soups and broths being first given.

THE CONSERVATIVE AGENCY OF SHOCK.

Read at the meeting of the Western Surgical and Gynecological Association, at Denver, Colo., Dec. 28 and 29, 1897.

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Until recently, the old notions and teachings of the cause and modus operandi of surgical shock have been little modified, notwithstanding the vague and uncertain theories upon which they were based. Literally, the term surgical shock has been applied to the condition of the body which is induced by severe injuries, operating through the nervous system, not attended with or produced by hemorrhage. Profound depression and even death may be so caused, but not com-

monly, and even when so produced, that it is serious because of the nervous disturbance alone can not be admitted, as the secondary circulatory disarrangement is the prominent symptom presented and is also the symptom which must be combatted with the greatest vigor if the life of the patient is to be saved.

Few serious injuries or surgical operations, which are followed by so-called shock, are unattended by hemorrhage, external or concealed. The symptoms which such patients present are due to the conjoined effects of the hemorrhage and "shock" combined.

For many years it was taught that penetrating wounds of the abdomen and amputations through the hip joint were ordinarily fatal because of the profound shock which accompanied them, but later experiences have taught that with perfect hemostasis their mortality may be greatly reduced. This indicates that hemorrhage is a far more important factor in the production of what we have heretofore called shock than has been believed.

It has been usual to attribute the death of patients, upon whom abdominal operations have been performed, to the "shock" of the operation, while the autopsy has ultimately shown that the patient had died of concealed hemorrhage.

A small concealed hemorrhage may go on so slowly and insidiously as to give rise to none of the symptoms which are characteristic of hemorrhage as in contra-distinction to "shock." In such cases it will be difficult to say that the state is not one of literal shock.

The tendency now is to regard surgical shock, as a condition which follows such operations or severe injuries as exhaust the nerve force of the patient and reduce his blood pressure, through the true shock and the reflex action of the hemorrhage, the latter being considered the more important factor.

The present status is unsatisfactory and confusing and the definition and meaning of the term shock should be applied to the condition as it is now known and its double origin recognized; or if it be preferred to retain this term for its original and literal use it should be limited strictly to this meaning and some new word chosen for the description of the mixed condition which comes after injuries and operations, the genesis of which is due to both shock and hemorrhage.

The term traumatic asthenia is well suited to the description of this mixed condition and also indicates its origin.

This mixed shock has heretofore been regarded as a serious and unfavorable complication of injuries and operations. This view should also be reconsidered and modified as it is now believed, by some, that the condition is essentially conservative in its agency, that if it were not for this lowering of the vital action through and by the intervention of the reflexes the suffering of the patient would be far greater and his life more quickly sacrificed.

Recall the picture of profound shock often seen in the emergency operating room after injuries received on the railroad or in the factory. The patient is pale, with pupils dilated but with eyes closed, his skin is cold and clammy, he is pulseless or nearly so, his temperature is subnormal and he desires to be left alone and allowed to rest. He is not suffering in proportion to the severe character of his injury and is bleeding very little, not because he has no blood to lose but because it is not circulating with its usual force. Is it not evident that the conservative efforts of all nature's agents are being exercised to render his suffering and the consequent exhaustion as little as possible, and prolong his life to the full limit by lowering his blood pressure and storing the vital fluid in his dilated and relaxed blood vessels? His very condition of perfect relaxation, inability and disinclination to make exertion is his salvation.

In all diseases, under all circumstances, the tendency of the natural processes is to resist death and destruction as long as possible and by every means.

The successful treatment of disease must take into consideration the indication nature gives as to the best way to proceed. Success depends upon following these indications and supporting the resisting powers in the fight for life, for death comes not by nature's consent or assistance but always in spite of her strongest antagonism.

I believe it has not been proved by the experimental physiologist that the reflex effect of hemorrhage is to lower blood pressure and so save blood volume. That this result is attained every surgeon knows, but to what extent it is accomplished through reflex action we can not say.

The experience of every surgeon who has carefully observed the condition of his patient under and after operation will lead him to believe that there is some controlling influence exercised over the heart and the circulation of the blood by a persistent arterial hemorrhage however small in amount. The influence upon the circulation is out of all proportion to the amount of blood lost as is also the profound effect in general upon the patient, who becomes cold, pulseless and is evidently near death, perhaps to be perfectly revived, with a full bounding pulse, when the hemorrhage is arrested. Such phenomena are sometimes seen in cases of ruptured ectopic pregnancy, the patient's condition becoming decidedly better or worse with each arrest or fresh attack of hemorrhage. It hardly seems rational to doubt that these remarkable effects are the results of reflex action, or that even a small but persistent hemorrhage may induce them.

Gynecologists and abdominal surgeons are peculiarly interested in having this matter thoroughly understood, for to them the question must often come for solution whether a patient is suffering from shock or it be traumatic asthenia, with the possibility that hemorrhage is still persisting and so maintaining through its reflex effects the state of lowered vitality. The importance of this question in its bearing upon treatment is evident. If the case be one of uncomplicated shock cardiac and other stimulants are indicated, transfusion and infusion may be employed and all the vital forces be quickly brought into normal activity; whereas if concealed hemorrhage continues these remedies are contra-indicated and opposed to the conservative efforts of nature, for the more the circulation is increased in force and volume the greater must be the hemorrhage till all bleeding points are controlled.

That the balance should be in every case so nicely adjusted as to give exactly the required amount of protection is too much to expect. It must be clear that the shock or traumatic asthenia may under certain circumstances be so severe and profound that the patient can not react and recover.

Here as in other branches of medicine the personality and condition of the patient bear directly upon the result. The nervous, anemic, exhausted, old, or very young person will not withstand a degree of trau-

matism that would make little impression on one in the full vigor of youth.

The degree of surgical anesthesia and the length of time it is maintained must also affect the result through the obliteration of the reflexes and the consequent paralysis of nature's conservative mechanism.

The conclusions I deduce from the foregoing are:

1. Surgical shock entirely unassociated with hemorrhage is a condition rarely seen and one which may usually be successfully treated in persons who are otherwise in good health.

2. Hemorrhage though small in amount is a far more important factor in the production of surgical shock (as it is seen clinically) than we have been accustomed to think it.

3. This mixed shock (traumatic asthenia) should be designated by some distinctive title, or the term shock be construed to comprehend all the factors in its genesis.

4. While not proven it seems probable, that the effects of even a small continuous arterial hemorrhage is to produce through its reflex action lower blood pressure and in general a condition so like true shock as to be very difficult of differentiation, particularly if the hemorrhage is concealed; as in ruptured ectopic pregnancy.

5. Surgical shock, with or without hemorrhage, must be construed as primarily conservative in its tendencies. The incident prevention of rapid exhaustion, of acute suffering, or great blood loss when the blood vessels are opened, all tend to the ultimate saving of life.

6. Premature stimulation in the treatment of traumatic asthenia may defeat this conservative effort of nature. Bleeding should be stopped and proper provision made for the comfort and welfare of the patient before strong stimulation is resorted to, unless there is imminent danger of death.

7. Anesthetics must be sparingly and carefully given to patients suffering from surgical shock (traumatic asthenia), chiefly because they completely obliterate the reflexes. The saturation of the patient with an anesthetic may turn the scale against him even though the direct effect of the anesthetic be stimulant. The same rule holds good in regard to the employment of alcoholic stimulants if too freely used.

8. We should co-operate with and supplement nature's conservative efforts. They are always exercised in behalf of the patient, never against him.

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LUPUS VULGARIS—EPITHELIOMA—ACNE—ALOPECIA CIRCUMSCRIPTA—TINEA VERSICOLOR.

A Clinical Lecture to Members of the American Medical Association, delivered in the Medico-Chirurgical Hospital of Philadelphia, June, 1897.

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LUPUS VULGARIS.

The patient is 40 years of age. The disease from which she suffers began about three years ago upon the right cheek, whence it has spread toward the upper lip. There is much infiltration in the affected part, and exterior to the edges of the main patch are a number of tubercles of glutinous appearance. These tubercles project slightly above the general surface. The extensive and continuous patch upon the cheek is the result of the coalescence of many tubercles. Most of the cheek has been invaded in this manner. Upon the seat of disease are many fine scales. The development of these lesions has, from the first, been accompanied by considerable pain.

But the disease is not in active progress in all parts. Upon the cheek are several cicatricial spots. I know, therefore, that however chronic, disfiguring or deep this ulceration, it can not be of malignant character. Epithelioma never exhibits these cicatricial spots intermingled with slow, progressive ulcers. These features, in connection with the intact tubercles along the principal lesion are characteristic of lupus vulgaris. In other words, in lupus vulgaris we usually perceive coincidently different stages of the malady. The primary lesion is a papule or tubercle, deeply imbedded in the corium and visible at first as reddish, brownish or yellowish spots. The lesions are due to an infiltration of small cells, which in time undergo fatty degeneration and may be absorbed. In other spots ulceration occurs and may continue indefinitely or may cicatrize in certain spots. Now, all this process of evolution, involution, ulceration and cicatrization constitutes a totally different clinical picture from that of epithelioma. Upon an attentive study of cases we should rarely err in diagnosis. This is a typical case of lupus, but there are inveterate cases in which ulceration penetrates to or even involves the bone and such are very apt to be mistaken for cancer.

In this patient the butterfly arrangement of the lesions is absent, as indeed it generally is in lupus vulgaris. That symmetry of outline is far more indicative of lupus erythematosus. The age at which the patient was attacked is also exceptional.

In some cases the infiltration involves the papillæ of the skin, which become immensely enlarged and sprout forth as wart-like elevations. This form of the affection is known as lupus verrucosus. Lupus generally attacks the face, though it sometimes appears upon other parts of the body.

The etiology of this disease has been the theme of much discussion. It is now looked upon by some as an attenuated form of cutaneous tuberculosis, although it is admittedly of a different clinical type from other forms of tuberculosis and the lesions contain few bacilli. As a general rule, the subjects of lupus enjoy fairly good health. In some instances they develop pulmonary tuberculosis.

Lupus vulgaris is liable to be mistaken for the tubercular or some of the ulcerative lesions of later syphilis. The former, however, is usually limited to the face. The tubercles of syphilis appear upon various parts of the body and display a characteristic coppery color. The ulcers of lupus have a tendency to coalesce; those of syphilis are most often isolated. Syphilitic ulcers are attended by abundant foul suppuration and covered by greenish crusts. Syphilitic ulcers are more rapid in their course than those of lupus and the cicatrices of syphilis are white and smooth. Lupus scars are an unsightly disfigurement.

The treatment of lupus depends much upon the general condition of the patient. The food should be digestible and nutritious. If scrofulous or tuberculous manifestations are present appropriate remedies should be ordered. Other impairment of the system must be treated upon general principles. Cod liver oil is an excellent remedy and shall be given in this case. The patient feels weak although she has not

lost much flesh. She shall also be placed upon arsenic in the form of sulphid, beginning with 0.006 ($\frac{1}{10}$ grain) and running up to 0.016 gram ($\frac{1}{4}$ grain) three or four times a day.

I do not favor harsh local measures, as I have known them to be followed by systemic implication. An effective application to the lesions is pure liquefied carbolic acid, used twice a week. In the interim a weak carbolic acid ointment may be kept upon the parts.

EPITHELIOMA.

Our next patient is a man, aged 68 years. He also has an ulcer upon the cheek. This lesion is about the size of a five cent piece, of a nearly circular outline with hard, everted edges, of dark red and granular surface. It is the seat of much pain and bleeds upon slight provocation. Some thick, yellowish secretion covers its surface. It has been in existence for seven months and in the beginning had the appearance of an innocent wart, as far as the patient could judge.

These seeming warts, these dry fissures surrounded by a thickened and hardened nodule, are always suspicious matters in people above 60 years of age. We have here an epithelioma. It is of the utmost importance to recognize this disease at an early moment. If allowed to progress it will infallibly contaminate the blood and proceed to a fatal termination. Yet, of all the forms of cancer, cutaneous epithelioma is the most amenable to early and judicious treatment. We may excise the growth *in toto*, together with a large surrounding area of healthy tissue; we may destroy it by chemicals or electricity. We may seek to attain the same object by the interstitial injection of alcohol, the application of methyl blue, etc. If the disease has caused deep ulceration before coming under our care and if adjacent lymphatic glands are involved we are often powerless to do more than alleviate symptoms as they arise. Total excision with a plastic operation to replace tissue removed succeeds in a certain proportion of cases. Nevertheless, there are many patients on whom, for some reason we may not practice radical surgery. The one before us is a case in point. The man absolutely refuses to submit to the knife. I propose, accordingly, to pursue a course which has sometimes given me a favorable result and which is always worth a trial in selected cases. This, I think, may be considered appropriate for the experiment. I refer to the topical use of abrus, jequirity or wild liquorice. This substance, if I may judge from recorded literature, is chiefly employed by the oculists in granular lids or trachoma. It is an energetic irritant, the virtue of which seems to depend upon the presence of a special ferment. An infusion or emulsion of jequirity is a most vigorous stimulant to old and sluggish ulcers. From this fact I was led to make use of it in certan cases of epithelioma. Although the ulcer in this case is rather large and deep there is no decided glandular enlargement and it seems possible that it may prove amenable to this method. The application causes excessive inflammation in from ten to forty-eight hours. There is enormous swelling with formation of a hard crust and free suppuration. In the course of a week or less the discharge decreases, the crust loosens or falls, and the exposed surface is seen to be the seat of healthy granulations. In some cases of epithelioma the use of this substance has been followed by complete recovery. In the hope that so happy a result will occur in the present case I will make the application.

ACNE.

The next two patients exemplify two phases of an exceedingly common disease, especially among young people, and one which is often very unamenable to treatment.

The first case is that of a lad, 19 years of age, upon whose forehead and cheeks are scattered red, isolated papules. A few pustules are also present and comedones abound. The eruption has been in existence for two years. It is limited to the face. The hair is dry, and the scalp is covered with greasy scales. The appetite is deficient and there is constipation. Digestion and assimilation are poor, the integument as a whole irrespective of the actual eruption, has an unhealthy aspect; the pulse is feeble, the heart is weak and irritable.

The disease upon the face is acne, and as comedones and papules predominate it is described as acne papulosa or papular acne. As in addition to the comedones the summit of many of the papules is marked by a blackish spot corresponding to the orifice of the duct, it is also known as acne punctata. Comedones and acne are often found in association or juxtaposition. Both are affections of the sabaceous glands or ducts. It is not strange that, as concerning the same glands, the functional disorder called seborrhea should frequently, as in this case, co-exist with comedo and acne. Their coincident presence points to a profound morbid impression made upon the sebaceous glandular system. The seborrhea here is of the dry variety, seborrhea sicca.

The three disorders to which I have alluded depend upon perversions of nutrition and in many, if not most, instances this malnutrition is of systemic rather than of local origin. In weakly young persons you will often observe the orifices of the follicles dilated and conspicuous. In some instances they are free; in others they are choked by a mass of impure sebum, *i. e.*, comedones have developed. Acne is but an advanced stage of comedo. The plug of sebum creates inflammation of the duct and the gland. The result is acne papules, and these, under the influence of microbes of suppuration, may become transformed into pustules. These pathologic sequences are often reflex. They occur at the age of puberty, they may be caused by genito-urinary disease, by digestive disorders, in diathetic conditions and a depressed or irritable state of the nervous system. They may also be produced by local irritation.

In this case we have no external cause. Unlike a girl of his age he is not tempted to paint or powder his face. He has never been unduly exposed to atmospheric vicissitudes, nor has his occupation been of such a nature as to provoke irritation.

We must, therefore, as in so many diseases of the skin, look beyond that tissue and interrogate other organs. In so doing I have traced the nervous and cardiac debility to the excessive use of cigarettes. He has been addicted for three years or more to the habit of smoking and of late has indulged at every opportunity. There is no doubt that an immoderate use of tobacco has caused in this youth, scarcely more than a boy, an impairment of nerve force, manifested in deficient digestive power, debility of striped and unstriped muscular tissue, anemia, disturbance of general and capillary circulation with, finally, that

morbid state of the sebaceous glandular apparatus for which he seeks relief. It seems rather strange that he should ask medical advice on account of some papules, insignificant in themselves, but magnified in importance by their situation, and apparently ignore far more serious manifestations. I regard this as an interesting example of nicotinism. As a first step in the treatment the patient must totally abandon the use of cigarettes. We shall then aim to strengthen his nervous system and improve his general nutrition. This object can be best accomplished by the use of iron. The stomach, I think, is not too irritable to bear one of the more palatable forms, such as the pyrophosphate. Some of the organic ferruginous preparations lately introduced answer a very good purpose. I will prescribe:

℞ Ferri pyrophosphatis . . . . . ʒ i 3 7
Acidi phosphorici diluti . . . . . ʒ iij 11 09
Elixir. simplicis. . . . . ʒ j 29 57
Aquæ . . . . . q. s. ad ʒ ij 59 14
M. ft. sol. Sig.—Teaspoonful in water three times a day.

Locally, he shall be directed to bathe the face with hot water night and morning, and after having dried the surface to apply the following lotion:

℞ Pulveris sodii boratis. . . . . ʒ iss 5 82
Aquæ hamamelidis dest . . . . . ʒ iij 88 71
Aquæ rosæ . . . . . ʒ iij 88 71 M.

Boro-glycerid solution may often be used with advantage instead of the borax. After the above preparation has been used for a week or ten days the borax may be replaced by 0.65 gram of resorcin, which stimulates the parts and aids in restoring them to a normal condition.

The boro-glycerid solution is also useful in dry seborrhea. It is necessary in that affection to clear the scalp of scales and stimulate the local circulation. The oil of ergot is an efficient application, and is often beneficially combined with the boro-glycerid or fluid oleate of mercury. Shampooing the scalp every few days is a serviceable practice. In some cases lotions are more beneficial than ointments or oils.

Another patient troubled by acne is a 17 year old girl, upon whose cheeks, chin and neck are seen a number of pustules intermixed with papules, the former being predominant, and the case being for that reason, properly described as pustular acne. The disease has been in existence for five years. At times the condition is improved and again it is aggravated. The skin is seldom if ever entirely free from lesions. The appetite is said to be good and the bowels regular. The tongue is clean. This is a well developed and physically precocious girl. The case may be viewed as one of those dependent upon the establishment of the menstrual function. Although the eruption antedated by some months the first appearance of catamenial flow, it received a new impetus from that period. In the absence of other cause, therefore, it is reasonable to look for the origin of the disease in the physiologic changes which take place at that time of life. The eruption is generally more abundant at each monthly epoch. When once established the disease may, and often does, persist for several years.

In this case I shall order the face to be sponged every day with hot water, and subsequently the following ointment to be used:

℞ Resorcini . . . . . ʒ j 39
Camphoræ . . . . . gr. x 65
Unguenti aquæ rosæ . . . . . .
Unguenti zinci oxidi . . . . . ãã ʒij 7 8
M. ft. unguent. Sig.—For external use.

Internally, in order to influence favorably the liver and sebaceous glands, the patient shall have:

℞ Sulphuris sublimati . . . . . gr. iij 2
Potassii bitartratis . . . . . gr. j 065
M. ft. capsul. No. j. Mitte tales No. xi.
Sig.—Three or four capsules to be taken daily.

At the end of four or five weeks the dose of sulphur may be increased to 0.26 or 0.32 grams, and thus continued until an impression is made upon the glands.

ALOPECIA CIRCUMSCRIPTA.

The next patient, a man of 24, has circumscribed patches of baldness upon the occiput and each side of the head. The hair of the beard and eyebrows has also fallen in certain spots. This gives to the whiskers a very shaggy and ragged appearance. There is also partial canities, the hair being whitened here and there in spots. We have searched but failed to find a distinctive parasite. This fact demonstrates that the disease is not a variety of tinea. Ringworm of the scalp usually occurs in children. The denuded patches are generally of a pale red color, though they may be grayish and are covered with fine scales. In tinea tonsurans the appearance of the hairs is characteristic. They do not all fall out and leave a completely bald surface. Some, indeed, are shed completely, but many break off near their points of emergence, giving a peculiar, ragged, stubbly or nibbled aspect. The patches in the present case, however, are entirely denuded. The baldness is only in spots, but it is complete. The affected places are white and smooth. There is a total absence of scales. The disease ie alopecia circumscripta or areata.

In those places where the beard is involved there is some resemblance to tinea sycosis. I have described the whiskers as ragged, but this appearance results from the irregularity of the hairy covering, and there are no pustules and tubercles denotive of barber's itch. It is necessary to differentiate closely here, but the absence of the trichophyton fungus excludes tinea. The bald patches are of the same nature as those upon the scalp and eyebrows. In extreme cases distinct patches spread and coalesce until the entire scalp and face are deprived of hair. In exceptional instances the axillæ and pubes are attacked.

It is necessary in a given case to distinguish between circumscribed and syphilitic alopecia. The latter, however, is but a single manifestation of a constitutional infection and other concomitant and undoubted evidences of syphilis can always be found. The obligation to eliminate syphilis is very pointed here, as this patient gives a direct history of a wild life, of alcoholic and venereal excess and consequent frequent exposure.

Circumscribed alopecia is of interest as it occurs in children as well as adults, sometimes spreads epidemically in asylums and barracks, occasionally developing with remarkable rapidity; the discussions concerning its etiology are also of interest. It would seem that there is a class of cases dependent upon disturbed innervation, which in its turn may be due to some definite disease of the nervous system, depression from dissipation or emotional causes as shock. To this variety the present case undoubtedly belongs. The man has undermined his nerve force by vicious habits of self-indulgence. The corresponding circumscribed canities is another evidence of nervous exhaustion. In a second well marked class we believe that a parasitic element must be present because of the spread of

the disease from one person to others until a considerable number are involved.

The researches of Sabouraud are important and suggestive in this connection. Others had given much study to the flora of the scalp and the integument, but Sabouraud's conclusions if accepted unite seborrhea, alopecia circumscripta and alopecia as different stages of one malady, dependent upon the activity of the same micro-organism. He regards diffuse alopecia as due to the coalescence of different patches of circumscribed alopecia. There is not time to offer criticisms upon these comprehensive doctrines. I can only question whether the views of Sabouraud serve to explain those cases in which circumscribed alopecia attacks an individual by sudden onslaught.

At all events clinical facts remain stable, and in this patient, debilitated by excess, our aim must be to build up his nervous power and stimulate the peripheral nerves and circulation of the scalp. The first object is attained by enjoining abstinence and continence, by the use of electricity, massage, and such drugs as phosphorus, silver, iron, nux vomica or hoang-nan, camphor, cinchona or kola, etc. This patient shall be given:

R	Tincturæ nucis vomicæ	ʒ ij ss. 10
	Extract. hydrastis fluid	ʒ ss. 16
	Tincturæ gentianæ comp. . . . q. s. ad	ʒ iv. 128

M. Sig.—Teaspoonful in water three times a day.

Stimulation of the scalp is effected by mercurous oleate, resorcin, naphthol, turpentine, etc.

TINEA VERSICOLOR.

This man, 45 years of age, is annoyed by the presence upon his chest, back and abdomen of yellowish-brown or fawn-colored spots and patches. The eruption has been in existence for about four months. The lesions are slightly elevated and covered with branny scales, which are easily removed.

The appearance is almost pathognomonic. These pigmented, finely scaling spots denote tinea versicolor, or chromophytosis, a parasitic disease caused by the microsporon furfur. Fawn is the usual color, but the hue may vary and in tropical countries may be nearly or quite black. Its general aspect is more like that of chloasma than of any other cutaneous disease. Chloasma, however, is an abnormal concentration of pigment in the mucous layer of the epiderm; tinea versicolor affects the horny layer. The lesions of chloasma are not raised and do not scale; those of chromophytosis are slightly elevated and furfuraceous. Tinea versicolor generally avoids, but chloasma often attacks the face. In vitiligo, or leucoderma, we find a rearrangement of pigment, a transfer of granules from the center to the border of the patch.

The scales of tinea versicolor are easily removed by friction. A mild parasiticide in the form of lotion or ointment usually suffices to destroy the fungus. Boric acid, borax, sulphur, thymol and mercuric nitrate are some of the agents which have been used with success. A reliable remedy is copper oleate diluted with oleic acid or made into a 10 or 20 per cent. ointment. It is antiseptic and parasiticide; moreover, it possesses decided penetrative powers.

The use of water upon the affected parts is to be deprecated. Water feeds the parasite and contributes to the prolongation of the disease.

Let us defeat the Antivivisection Bill!

LECTURES ON TUBERCULOSIS OF THE KIDNEY.

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BOSTON, MASS.

(*Concluded from page 531.*)

LECTURE II.

We will first consider the symptoms to which a tuberculosis of the kidney may give rise. There are two stages to be considered, viz.: The initial stage and the stage of full development, but before discussing these, I will say a few words regarding acute renal tuberculosis, which is not a clinical disease.

It is an accident occurring during the progress of a general infection, and the symptoms of the renal lesion are hidden by those of the lungs, pleura, etc., produced by acute tuberculosis. Two symptoms indicate that the affection has attacked the urinary gland; these are hematuria, be it repeated or simply occurring once, and albuminuria, although this symptom has less importance because it is common in all infectious diseases.

We now come to the symptoms of chronic tuberculosis of the kidney, which are more complete. In the initial stage it may be said that the majority of cases are latent and are consequently overlooked and the progress of the renal lesions is not noticed until the disease is quite advanced, and from a medical tuberculous kidney it has become a surgical one.

The hereditary antecedents occupy here an important place, and the condition of the parents, the bacillosis and genito-urinary antecedents of the patient.

The disease manifests itself by a clear polyuria and frequent micturition, which symptom is the only one present for quite a long time. Clear polyuria, in attacks, is most important. To this symptom we must add hematuria. Smith considers this a symptom of the initial stage, while Guyon compares it to the hemoptysis due to the invasion of tuberculosis in the lungs.

Vigneron found it as the first symptom of the renal trouble and thinks that it would be more often noted if the history of the patient were more carefully inquired into.

Considering now the symptoms of the stage of full development we find that they are more complex, and in order to render them clearer I will divide them into functional and physical. Now the latter may be made out from the appearance of a renal tumor or one developing in the lumbar region, by an edema of the lumbar region, while the functional symptoms are localized, or multiple pains, hematuria, the condition of the urine, the general condition, etc.

Pain, according to Le Dentu, is the most important of symptoms. It may be localized in the kidney or shoot into the neighboring region. Pain has been considered as an initial symptom. In one case reported by Vigneron, the pains had been present for five years, and of six years duration in several cases reported by Palaillon, Tuffier and Bardenhauer; nine years in a case due to Czerny, and twelve in another reported by Monod. But it may be that the pains were produced by small calculi, as in the case published by Burguerolle.

Pain produced by tuberculosis of the kidney is caused by the invasion of the pelvis of the organ and to lesions of the nerves it contains. In many cases, however, pain is completely absent.

The characters of the pains are very varied. Sometimes they occur like a lameness of short duration; sometimes like a feeling of weight in the lumbar region, at others it is acute, very sharp and intermittent; in other patients it will be described as lancing and continuous.

Generally it occurs in attacks like nephritic colic and radiates from the lumbar to the hypogastric region, thighs and genital organs. Walking, pressure, lying on the side sometimes increase it, at others, produce no influence whatever. All things considered, the shooting pains are frequent and the same in intensity as those localized in the kidney. It only appears at a very advanced stage of the affection, when the tubercles are softened and obstruct the ureter. The radiating pains only last a few seconds generally, but they are so sharp that they cause the patient to cry out. They radiate from above downward, from right to left and left to right, but only exceptionally from below upward.

The pain increases during the periods of retention and stops as soon as the urine, pus and caseous collection passes. When the disease is far advanced, a pain similar to nephritic colic occurs, due to the stopping up of the ureter by masses of broken down tuberculous tissues. The same pain may occur when small blood clots are passed, or it may persist after an abscess of the kidney.

Hematuria.—I have said that in the initial stage of the disease a hematuria could occur. When the affection is fully developed, this symptom becomes important if it presents certain characters besides those of an ordinary hematuria. Those due to tuberculosis of the kidney are spontaneous, intermittent, and of short duration, often only slightly tinting the urine, but the blood is always intimately mixed with the urine. The quantity of blood is sometimes so small as to require a microscopic examination in order to find it. The hematuria of tuberculous kidney occurs without regard to walking or riding and may occur during rest.

The urine.—The characters of the urine are of the utmost importance. In the beginning of the affection it is perfectly clear, but later becomes very purulent and pyuria is generally a constant symptom. The urine is cloudy when passed and remains so. When left in a glass tube a whitish or grayish chalk-like deposit is seen at the bottom; it is sticky and may measure several centimeters in thickness. This large amount of pus is alone enough to indicate the renal nature of the disease The deposit may also be streaked with blood, the urine above is cloudy and thick. The density is normal and the reaction is acid. There is probably albumin in these urines, although the pus and blood may deceive you in this respect.

Urea usually decreased according to the amount of destruction of the renal parenchyma; sugar is absent, but there is an excess of the phosphates and sometimes of the urates. The phosphates are more particularly ammonio-magnesia.

Microscopically, pus is found as well as leucocytes, fat globules and red blood corpuscles. Deformed and shrunken epithelial cells abound.

Bacteriologically, we find a multitude of bacteria. They abound in the products of excretion and the urinary system, but as soon as there is a lesion in the latter the bacterium coli is often found. The bacillus of tuberculosis may also be discovered and will then settle the nature of the lesion, although it does not permit us to say which organ is the seat of the disease. The examination for Koch's bacillus should never be omitted and if the first examination should be negative it should be attempted several days in succession until its presence in the urine is demonstrated.

Of all the characters of the urine the most important is the presence of pus. This pyuria presents three characteristics, viz., it is spontaneous, constant and lasting. It may be very abundant and there is a direct relation between this abundance and an increase of the tuberculous lesions. The quantity of pus may be intermittent, sometimes being passed in large quantities, at others in small amount. It is always accompanied by sharp pain, either local or general, anorexia and fever, because the renal pocket contains the infectious material, thus infecting the entire organism, but when the pus passes out with the urine these symptoms subside. When the blood clots contain small grumous particles the size of a pin-head, it is pathognomonic of a tuberculous ulceration of the kidney, according to Vogel, Chopart and Lebert.

I shall now consider the general symptoms as well as those observed in the healthy kidney on the opposite side, the bladder and digestive tract. Guyon has described painful symptoms occurring in the healthy kidney and rectum that he calls reno-renal and recto-renal reflexes and are very curious to study. The healthy kidney without any pathologic change, is the seat of quite sharp pains, similar to those felt in the diseased organ. Generally the ablation of the diseased kidney causes the reflex pain to disappear in the healthy organ.

While the reno-renal reflex is often absent, the reno-vesical is hardly ever wanting and is even an early sign of tuberculous involvement. According to Beal, this reflex is characterized especially by pain in the bladder without any pathologic change in the organ, while Lecorché believes that there is a lesion in the bladder, the pain indicating a tuberculous lesion there. Besides the pain, inflammation of the kidney may produce a frequency of micturition. These three symptoms produced by vesical reflex, frequent, painful and imperious micturition, play an important part according to Beal, Clarke, Roberts and Newman.

This pain is very variable and changing, sometimes only amounting to an abnormal sensitiveness in the hypogastrium. Other patients complain of a very severe pain in the urethra while passing water, which may last after the act, but usually stops when the last drops are expelled. These pains are accompanied by a violent anal tenesmus and even the prostate may become painful.

The micturition besides being painful is frequent, and Tuffier says this condition is sufficient to distinguish tuberculosis of the kidney from a renal neoplasm or a simple pyelo-nephritis. The patient may pass his water seven or eight times in the day and four or six times in the night, sometimes as often as every fifteen minutes or oftener. This frequent and painful micturition is imperious, the patient can not pass his water, but the bladder suddenly contracts and empties itself instantaneously. Incontinence and retention are infrequent in tuberculosis.

For certain English surgeons these reflex symptoms are sufficient to make a diagnosis. Other surgeons believe that they are more than reflex. In Morris' case, who passed water 160 times daily, the autopsy showed a few recent granulations in the bladder. In a case of very painful renal tuberculosis in a woman, with frequent micturition, Tuffier performed a nephrectomy. The patient recovered, but the desire to urinate was in no way lessened by the operation and it was found that there was a commencing tuberculosis of the bladder. Consequently, when there are frequency and pain in urinating in cases of tuberculosis of the kidney, the bladder has also been invaded by the disease and the reflex theory should not be considered.

The coincidence of inflammation of the bladder, especially tuberculous cystitis with tuberculous degeneration of the kidney and ureter, explains, according to Rogers, the reason why we sometimes see cases in which there is an abnormal sensitiveness in the hypogastric region and more or less sharp pain before, during and after the passage of the urine, the emission of which is often repeated and the quantity passed very small, as well as several other symptoms common to all kinds of cystitis. The symptoms given us by the general condition of the patient have nothing characteristic. At the beginning they are not at all marked and a tuberculosis of the kidney may even get entirely well at this period if properly treated medically.

Infection by retention of the poisonous débris in the kidney and the toxins secreted by the pathogenic bacteria is often added to the tuberculous infection. In this case we have anorexia, vomiting, insomnia, chills alternating with sweating, a dry, red tongue, exaggerated thermometric oscillations; in fact, all the symptoms of pyemia or septicemia. These symptoms are not necessarily present in every case, but when they do exist the indications for action are more clearly defined.

According to Dickenson, a tuberculous kidney rarely gets so large as to form a tumor. On the contrary, Newman thinks that there is soon a slight increase in the size of the organ, but which can not be made out by palpation. Le Dentu believes that in the beginning the kidney is hardly increased in size, but soon acquires a considerable volume. The truth is that the kidney may be increased in size in some cases, while in others the organ is not much larger than normal and consequently can not be palpated. Tuffier had a case of an enormous tuberculous kidney which developed upward toward the diaphragm and was objectively inaccessible. When the kidney is sufficiently large, bimanual palpation and rectal examination will reveal a tumor. By inspection a tumor or swelling will be seen in the lumbar region, sometimes extending to or reaching even above the umbilicus and extending into the iliac fossa. It will also be noticed that this tumor projects under the soft parts from the last ribs to the iliac crest and may be either distended or decreased in size after micturition. Edema from compression is sometimes present. Bimanual palpation must be carefully practiced and will give you a more precise idea of the condition of affairs than will percussion, although the latter should not be omitted in your examination.

You will feel in the lumbar region, sometimes in the anterior abdominal region, a solid, resistant or fluctuating tumor, usually painful on pressure and in many ways similar to simple pyonephritis. The indurated ureter, which is sometimes deviated, will be felt, like a hard cord, containing bosses and running through the iliac fossa. Rectal examination will complete the physical signs but you must examine the urethra, the prostate, seminal vesicles and bladder in order to ascertain if they contain foci of tuberculosis.

We now come to the diagnosis, and I shall first consider the premonitory stage. For many surgeons, the diagnosis can not be made or it is of extreme difficulty. We must be guided by the etiologic facts of the given case. Slight or vague pains, the initial lameness, must be differentiated from lumbago following a strain or sudden movement, as well as from lumbo-abdominal neuralgia, which may be recognized by its well defined points. But the symptom pain does not signify much until a hematuria appears. When this occurs you must make a differential diagnosis between a hematuria due to tuberculosis of the kidney and that due to hypertrophy of the prostate, acute cystitis, nephrolithiasis and vesical bacilliosis.

Calculus of the bladder.—After a long walk or riding in a carriage or on horseback or bicycle the patient passes blood from the bladder and the hematuria may last all night and in the morning the urine is only slightly colored or may even be clear. If these exercises are again indulged in the hematuria returns.

Hematuria due to vesical calculus has consequently this pathognomonic sign produced by movement and ceases when the patient remains quiet. Under other circumstances, without excessive fatigue, after passing water a sharp pain causes the urethra to violently contract and with the last drops of urine a few drops of blood are expelled, or there may be a jet of blood. There are never any clots indicating a considerable hemorrhage.

Tumors of the bladder.—The hematuria is unique and exists alone as a functional trouble. It is spontaneous, occurring in the morning when the patient awakes after a night's sleep; or in the day, without having worked or exercised the patient may pass a certain amount of blood. The passage of a catheter or washing the bladder causes the passage of blood whether the patient be seated or standing and lasts several days, weeks or even months, the hematuria occurring by attacks usually without cause. The attacks occur at nearer intervals as the disease increases.

The urine is more colored at the end than at the commencement of micturition and much blood is passed. Clots may be expelled or may be arrested in the urethra, producing a serious retention.

Tuberculosis of the bladder.—In the early stage, hematuria is a true hemoptysis, spontaneous and small in amount. It occurs at the end of micturition, disappears without notice, as in tumor of the bladder, but is different from the hematuria occurring in the latter by its very small amount.

Renal calculus.—Hematuria is frequent but not a constant symptom. It is of short duration and small in amount, and does not contain clots. Hematic casts are found in the urine formed by strings of red blood corpuscles and are pathognomonic of a renal origin.

It is characterized by its appearance and increase during walking, efforts and exploration of the kidney as well as during digestion. The attacks are painful, often accompanied by hemorrhages either before during or after.

Contusion of the kidney.—Hematuria immediately

follows a traumatism of the kidney, rarely appearing as late as a week after the accident. What is particularly characteristic of renal hemorrhage is its sudden arrest and reappearing soon again. (Guyon.)

Considering now the diagnosis of a renal tuberculosis in full development, I may say that it makes its presence known by a pyuria following a pyelo-nephritis, by a tumefaction of the kidney and by the symptoms that have already been given.

Pyuria.—A cloudy pyuria is characteristic of a tumor of the kidney. The color of the urine varies from a milky grayish white to green. On the contrary a cystitis shows a purulent deposit at the bottom of the tube with clear urine above after it has been allowed to stand.

Wounds of the kidney.—Superficial wounds do not give vent to hematuria, but if the laceration is deep there is slight hemorrhage.

Pyelo-nephritis.—Hematuria is infrequent, and when it is present is only seen in the form of streaks of blood.

Malignant tumors of the kidney.—Hematuria is absent in almost 25 per cent of cases of cancer of the kidney, in 50 of sarcoma, and in 75 per cent. of renal neoplasms in children.

It is absolutely spontaneous, quiet or movement have no influence in its production. Its appearance is preceded by a sensation of weight, and after the blood has been passed there is relief. The blood is mixed with the urine, which varies in color from red to brown. The mixture is equal and may contain long cylindrical clots and casts of the ureter, which are passed without pain. Pieces of the neoplasm may sometimes be found in these clots. There are attacks of pain which occur at long intervals.

Tuberculosis of the kidney.—I have already described the hematuria occurring in this affection; how when a patient has passed blood from the urethra, and you suspect a lesion of the kidney you must ask yourselves: From what organ does the blood come? What is the nature of the kidney lesion? Which is the diseased kidney?

Now we can localize the hemorrhage from the kidney, although many are the hemorrhages coming from the prostate and bladder. The anterior and posterior urethra can also give rise to a temporary passage of blood at the beginning and end of micturition, but digital examination of the prostate, cystoscopic examination and catheterization of the bladder will eliminate prostatic and vesical lesions.

In vesical tuberculosis as in neoplasms of the kidney, the hemorrhage is spontaneous, intermittent, temporary and small in quantity. The prostate and testicle are usually the seat of tuberculosis when this affection exists in the bladder. In order to differentiate a renal from a vesical tumor hemorrhage you should distend the bladder with an antiseptic solution and wash it out. If after this has been carefully done the last part of the solution withdrawn is deeply tinted with blood you may conclude that it comes from the bladder. The same is the case if the blood appears after forced distention or recto-abdominal palpation.

As a patient passes pus and then this disappears from the urine and is followed by a painful sensation in the lumbar region, nephritic colic and then a sudden reappearance of the pyuria with disappearance of the lumbar pain, you may be sure that the pyuria comes from the kidney. You must also examine the urine microscopically, and by adding ammonia it will give the urine a gelatinous aspect if it contains pus.

Pyelo-nephritis.—Microscopic examination alone is capable of allowing you to make a diagnosis of tuberculous pyelo-nephritis. Besides the pus you will find single epithelial cells, hyalin casts and cells from the pelvis of the kidney. There are also pieces of renal tissue, phosphates, streptococci, bacterium coli, micrococci and sometimes the bacillus of tuberculosis. The diagnosis is consequently very difficult because it is only a pyelo-nephritis produced by a specific infection.

A simple pyelo-nephritis may become tuberculous, and a gonorrheal cystitis may be the starting point of a tuberculous infection. A dirty catheter may be the cause of a secondary infection on a beginning tuberculosis.

Chronic cystitis.—Polyuria is not marked. The urine after standing separates into two layers, the upper being clear. When during the process of a vesical disease the patient commences to lose strength you should suspect tuberculosis and search for it.

Pus is constantly present during cystitis, and you know the classical experiment with the three glasses which shows that it is above all present at the beginning and end of micturition.

Vesical calculus.—A stone in the bladder creates a particular condition, most favorable for the development of cystitis.

I will now proceed to discuss the diagnosis of a urine containing pus. The principal point is to make a diagnosis of the nature of the infection. Bacteriologic examinations and experimental inoculations are of little value as regards the urine.

You should particularly endeavor to make a differential diagnosis of tuberculous pyelo-nephritis, and pyelo-nephritis produced by a calculus. It is quite easy to make a diagnosis of a pyelo-nephritis produced by a cystitis, prostatitis or stricture of the urethra. Be guided also by the acute progress of the lesion on the disease presented by your patient in order to diagnose a pyelo-nephritis of an infectious disease such as osteo-myelitis, measles, etc.

Your diagnosis consequently is made by three factors, viz.: The general condition, the presence of a tuberculous lesion and absence of an antecedent infection. Hematuria, pyuria being two prominent symptoms of tuberculosis of the kidney. There remains a third, tumor of the kidney, which I shall now discuss.

Tumor resulting from contusion of the kidney.—Sometimes there is a diffuse tumefaction filling the entire lumbar fossa, which is rather hard and adheres to the surrounding parts; this is a peri-renal infiltration. Hemato-nephrosis consists of a distinctly limited, rounded movable tumor with a history of contusion.

Tumor in renal lithiasis.—A history of former lithiasic trouble and pain when the patient moves, will clear up the diagnosis.

Tumor in pyelo-nephritis.—Here we find symptoms of renal neoplasms as projecting abdomen, anterior sonority and renal ballottement. The tumor is round, hard, spontaneously painful or becomes so on pressure, the pain is intermittent.

Tumor in peri-nephritis and peri-nephritic phlegmon.—Palpation always reveals a doughyness, resistance and deep induration localized in the lumbar region. The tumor does not follow the movements of the diaphragm. Peri-nephritis is a lumbar tumefac-

tion, while pyelo-nephritis forms an abdominal tumor.

Hydronephrosis is entirely abdominal and fluctuating, and may be mistaken for an ovarian cyst. It is only by its lumbar situation, and descending and lateral evolution that will lead you to make a diagnosis of hydronephrosis.

Malignant tumors of the kidney.—Tumors of the abdominal wall are immobilized by contraction of the muscles, and their dulness is superficial. Neoplasms of the liver have a sharp border continuing with the liver. Tumors of the spleen have the shape of a cake, the percussion dulness extending upward on the right with a well marked left-sided sonority.

Cancers of the colon cause intestinal obstruction and intestinal hemorrhage, which complications are not met with in tumors of the kidney.

Tumors of the mesentery are median, very movable and extend from above downward.

The clinical diagnosis of tumors of the supra-renal capsule is impossible, while tumors of the ovary and uterus will cause no difficulty in diagnosis.

Consequently when there is renal tumefaction the diagnosis is very difficult. The physical signs are not alone sufficient to indicate the nature of the tumor. and you must take into consideration the functional and general symptoms and age of your patient as well. Do not forget that syphilis of the kidney may produce an enormous tumefaction of the organ, and where this diathesis is suspected try an antisyphilitic treatment before resorting to surgical measures. Examination of the ureter and bladder of the supposed healthy kidney will also contribute to render the diagnosis more precise.

Tuffier reports two exceptional cases of tuberculous kidney. The first presented the symptoms of renal colic. There were no physical signs, pyuria or hematuria, perfect integrity of the pelvis of the kidney and ureter. The attacks were sharp, without lumbar pains. Pains shot down the thighs and spermatic cord; frequent micturition; in fact nothing was wanting excepting the appearance of gravel in the urine. The kidney was not increased in size and painless. It proved to be a renal tuberculosis with pain, but without retention.

The second case was a woman, aged 42 years, who presented abundant hematuria, no renal tumor, no pyuria. Endoscopic diagnosis showed blood oozing from the ureter. Nephrectomy followed by cure.

When you have a young patient presenting frequent hematuria without any precise renal or vesical symptoms you should suspect tuberculosis of the kidney. If besides, your patient has an early limpid polyuria without any particular marked symptoms in the urinary system, you should be guarded in your diagnosis and prognosis.

In a case reported by Tuffier he found a tumor on the right, but a most careful palpation under chloroform did not reveal the slightest increase in size of the left kidney. Now the left kidney was larger than its mate, but had developed upward toward the diaphragm and was thus concealed.

As a pyelo-nephritis appears without any cause, and nothing can be elicited from the history of your patient, you can as a last resort aspirate the pus from the kidney and make a bacteriologic diagnosis.

The most important point is to distinguish those cases requiring surgical treatment and those that are inoperable. In the female we can easily come to a conclusion by the use of Kelly's and Garceau's instruments. As to the diagnostic value of the bacillus of tuberculosis, let me warn you that in about 40 per cent. of cases it is not in the urine, while if you resort to experimental inoculation, you will have no result before four or five weeks, and sometimes these are negative.

Now, how shall we make a diagnosis? By observance of former infection which could explain the pyuria, on the general condition of the patient and the presence of another focus of tuberculosis in some other organ.

Which is the diseased organ? Swelling and pain are the two symptoms by which to be guided, but they may deceive you. And in closing let me say that a nephrotomy will allow you to assure yourselves of the character of the urine secreted by the kidney. Sometimes a peri-nephritic abscess will call for incision and you can at the same time ascertain the lesion of the kidney and act as you deem proper.

COCAIN IN OTOLOGY AND LARYNGOLOGY.

Presented to the Section on Laryngology and Otology at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, June 1-4, 1897.

BY LEDRU P. SMOCK, AM., M.D.
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In 1855 Geadeke isolated a crystalline alkaloid from coca leaves, which he called erythroxylin. Five years later Albert Niemann further investigated this alkaloid and gave it the name cocain.

The power of cocain to produce anesthesia was first called attention to by Fronmueller in 1863, but its practical use became more fully known in 1884 through the investigation and experiments of Freud and Koller.

It was then first used in ophthalmic surgery. Cocain, like all new or rejuvenated remedies, quickly became a panacea "for all earthly woes." While it is still largely used for many external and internal lesions, the aurist, laryngologist and gynecologist probably use it with the greater satisfaction, owing to its anesthetic effect upon the mucous membrane.

Cocain hydrochlorate, when pure, is found in colorless prisms of strong alkaline reaction. giving an astringent, bitter, burning taste followed by a numbness of the mouth and lips.

The folowing are the tests for the determination of the presence of allied dangerous alkaloids:

Test 1.—Dissolve one-tenth gram cocain hydrochlorate in five cubic centimeters of water (making a 2 per cent. solution) in a clean, glass-stoppered vial, adding three drops diluted sulphuric acid; then add one drop of a 1 per cent. solution potassium permanganate, which produces a pink or violent tint. This tint will not visibly decrease within half an hour if the cocain is free from cinnamyl-cocain and other dangerous impurities.

Contamination with isatroply-cocain (a violent cardiac poison, which is stable toward the permanganate test) and other basic impurities may be detected by MacLagan's ammonia test, viz:

Test 2.—Dissolve one-tenth gram cocain hydrochlorate in eighty-seven cubic centimeters of water, and then add three drops of ammonia; for a few minutes the solution will remain clear, but a rapid stirring with a glass rod will cause a prompt crystallization.

The most useful solutions I have found are a 2, 4 and 10 per cent. in a saturate solution of boric acid. Where it is desirable to have a longer or an anesthetic

action upon the deeper tissues, the 2 per cent. is the most efficient; as the stronger the solution of cocain the greater the superficial contraction and the less absorption of the drug.

My usual procedure is to spray the parts with a 2 per cent. solution, followed in five minutes by a pledget of cotton, saturated in the same solution; after five minutes apply a 4 or 10 per cent. solution on cotton; in five minutes after the last application the parts will be as thoroughly anesthetized as the idiosyncrasy of the patient will permit.

The use of cocain outside of minor operations, where I believe it will be in most instances superceded by eucain, are many and exceedingly valuable.

The purpose of this paper is to give the personal experience of the writer in the use of cocain on the following acute diseases:

In acute rhinitis, where the nasal mucous membrane is swollen and sensitive, the nasal passages more or less occluded by the intensity of the congestion, the use of a 2 per cent. solution in the form of a spray gives the patient the greatest possible relief and affords the physician an opportunity to cleanse the inflamed membrane.

If the treatment is followed by a 4 per cent. solution spray of antipyrin, then by albolene or blandin in spray form the relief and effect of the treatment will be greatly prolonged, sometimes rendering the nasal passages clear for hours. Many cases will be aborted by two or three such applications at intervals of a few hours.

I have found a pledget of cotton saturated with a 4 per cent. solution of cocain exceedingly efficient in epistaxis, usually no bleeding following the removal of the cotton, which should be left in the nasal passage several hours.

Acute tonsillitis, if treated in its incipiency, will frequently be aborted by prompt and persistent use of cocain sprayed or applied to the tonsil and surrounding parts with a brush or cotton covered probe. The only unpleasant effect I have noticed from this treatment is slight nausea, which is promptly relieved by one or two 0.65 to 1.3 gram doses of potassium bromid, and any depressing effects upon the heart's action is rendered unnoticeable by 10 to 15 drop doses of tincture digitalis previously administered.

I have used eucain in similar cases with but fair results; so far in my experience cocain seems much more efficient, causing greater contraction of tissue, while eucain produces greater anesthesia with slight congestion of the mucous membrane as well.

I have frequently used cocain spray in the nasal passages and larynx of patients suffering from an acute attack of laryngeal asthma, the relief being almost instantaneous; also in spasmodic laryngitis, or false croup in children, cocain spray has almost always afforded immediate relief, a second attack rarely recurring, that night at least.

I do not remember a single instance of nausea or depressed heart's action following the use of cocain in either of these affections.

In the treatment of acute otitis, furuncle and acute otitis media suppurations, the most gratifying results have been noticed after the use of a 4 per cent solution.

Saturate a pledget of cotton, warm it over the lamp and gently insert in the canal of the ear and the pain of acute otitis, in many instances, will be quickly and permanently relieved or greatly modified.

Furuncle, if noticed in its incipiency, will in most cases be aborted by keeping the canal of the ear packed loosely with cotton saturated with cocain; if not aborted, it will run a rapid, almost painless course.

In cases of acute suppurating ear with a tendency to hemorrhage, the action of the cocain and boric acid solution is most gratifying to the patient and yields as speedy a cure as any treatment I have used.

In no aural case have I seen or known of unpleasant or toxic effect from the use of cocain, its action probably being purely local with at least but a very slight absorption.

I have, in this paper, avoided the consideration of the use of cocain in operations upon the throat, nose or ear, believing that eucain is a more desirable anesthetic in most cases.

Exception might be taken to this view in the use of the electro-cautery in operations for anterior or middle hypertrophy of the mucous membrane on the turbinate bone; cocain in this case, by more fully contracting the tissue gives a better opportunity for the use of the electric knife.

In the removal of the posterior nasal growths with the Jarvis snare or an electric snare eucain is much more desirable, as the contractile power of cocain frequently renders it impossible to grasp the growth with either instrument.

The abusive use of cocain and the cocain habit, I believe in most cases, follows the use of pills or tablets containing the drug combined with other medicine for the relief of laryngeal and pharyngeal irritation, or taken internally for the relief of some forms of dyspepsia.

I have never seen a case in the medical profession, but am told that many are unfortunately addicted to the habit.

The greatest care should be observed by the physician in all cases where there is necessity for the use of the drug in prescriptions, less the patient, by indiscriminate use, should form a habit more deleterious than either that of alcohol or opium.

I would suggest that all prescriptions be marked: "Not to be renewed without a written order from the physician."

3330 Chestnut Street.

DISCUSSION.

Dr. WILSON—I have never been able to relieve acute otitis media with cocain 4 per cent. I have obtained much more benefit from heat. Does not Dr. Smock think the heated pledget of cotton may have given relief?

Dr. SMOCK—I think the cocain has much effect. Heated applications in otitis are always grateful.

FRACTURES OF THE NASAL BONES.

Presented in the Section on Laryngology and Otology at the Forty-eighth Annual Meeting of the American Medical Association at Philadelphia, Pa., June 1-4, 1897.

BY FREDERICK C. COBB, M.D.

BOSTON, MASS.

Neither in the works on surgery, nor in the special works on the nose and throat is there much information about this subject, and yet any injury deflecting the nasal bones causes a deformity very apparent and disagreeable throughout life, besides often obstructing one of the nostrils. Probably many of these cases occur in childhood, due to falls or blows, and the injury to the nasal bones is so masked by the swelling resulting from the accident that fracture is not diagnosticated. As the swelling disappears, it is noticed that the nose is no longer quite straight, and

that one nostril is somewhat obstructed. These cases often come, in adult life, with a request that the nose may be straightened or the nostril cleared for respiration.

To replace the nasal bones is not as a rule difficult, but to keep them in place has been found to be almost impossible. After fracture, splints have usually been applied to the inside and must be worn two or three weeks. Although the lower meatus is very tolerant of tubes or splints, as shown by their use in the correction of septal deviation, the middle meatus and the upper portion of the nasal cavity is not so accommodating. Pain, sneezing and swelling of the conjunctiva on the affected side usually follow the introduction of splints high up in the nose, and the patient is unable to bear the treatment. Therefore, after correcting the nasal deformity as well as possible at the time by etherizing, and straightening the nose, the surgeon is usually obliged to content himself with the hope that the nasal bones will remain as he has left them, a hope which is frequently disappointed. It may be asked, what is there to deflect the nasal bones after they have been placed in proper position, and I believe the answer can be found, first, in the spring-like elasticity of the cartilaginous septum which is often thrown out of its normal conditions by

Figure 1.

the accident; and secondly, in the fact that an organ so exposed as the nose can not be well protected against slight pressure, during sleep especially. When a very slight impulse will alter the position of a fractured nasal bone, we can not wonder that they so rarely stay in place. The elasticity of the septum, if its normal attachments were unaltered, would tend to keep them in their position after the nasal bones had been restored to their normal position. I believe many, if not most, fractures of the nasal bones alter the usual attachments of the septum to its neighbors, and the co-existence of dislocation of the cartilage from its attachment to the maxillary process and the superior maxilla is often found with a long standing deviation of the nasal bones. Other septal deformities, also, are usually present in such cases, but whether as the result or cause of the misplaced nasal bones is a more doubtful question. My view is that the blow which fractures the nasal bones also dislocates the septum more or less from its bony attachment, thus altering its normal direction of spring and prevents its exerting that pressure to keep the nasal bones in their mal-position. In one of the cases I cite, the septum could be seen, on pressing on the bridge of the nose, to alter its position from a deflection partially obstructing one nostril, to one giving almost perfect symmetry to both nostrils; yet when the nasal bones were released the septum returned to its old position. This case illustrates the fact that the replacing of the nasal bones without splints can not always be trusted to keep them in position. For some time we have made attempts to keep a pressure on the bridge of the nose by the use of the band of a head mirror, but it was found that no matter how tightly the strap was pulled, the looseness of the scalp allowed so much movement of the apparatus that it

Figure 2.

was practically inefficient in holding the nasal bones in place. Noting the difficulty of turning one's hat on one's head suggested the idea of having a band made of steel shaped to the head by some similar method. This plan has seemed to do so well that I suggest it for your consideration. The band is shaped to the head by the use of the hatter's form, by which the shape of the head is accurately marked on a sheet of paper; but this method required an enlargement of the paper model and more complicated apparatus than was necessary. It was found also that as it corresponded to the head in only one plane, the steel band being wider than that plane could not be so well shaped to fit the head. For patients accessible to an instrument-maker, a strip of lead was used, fitted to the head at the level desired, and then a steel ring

was made to correspond with it. For physicians living at a distance from an instrument-maker, the following plan is suggested: A strip of oiled silk is wrapped about the patient's head at the level desired for the band, and a few turns of a roller bandage of plaster of Paris being moistened, are applied around it, and allowed to harden in position. When the plaster is removed, a cast of the inside may be made by oiling it and filling it with plaster, or the hardened bandage may be sent direct to the instrument-maker, who can shape a steel band to correspond with it. The head-band is prevented from sliding downward by a strap passing over the head, and from sliding upward by a chin-strap. It should be broad enough to allow very little lateral twist, but the effect of such twisting can be neutralized by the screw attachment as well as by the spring. The nose being unbandaged, its position can be clearly seen by the patient, and the pressure of the spring on the nasal bones may be increased or diminished as may be necessary. If there is a depression as well as a lateral motion of the nasal bones the depressed fragment should be first pried up into position from the inside of the nose, under ether, and then packing applied high up in the nostril, if possible. The discomfort and conjunctivitis resulting are the main objections to this plan, but there seems to be no other way if the fracture be a depressed one. If the pressure of the pad against the nasal bones produces any irritation of the skin, the pad may be moved slightly higher or lower without altering its efficiency. I have seen no inconvenience except a slight reddening of the skin follow the use of this splint. The following cases and cuts illustrate the use of the splint:

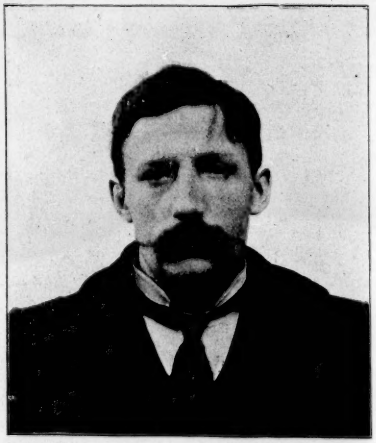

Figure 3.

Case 1.—J. L. K., age 25, entered the Massachusetts General Hospital, February 8, with the following history: Three days before, he was assaulted by a man with a club, and received several violent blows on the bridge of the nose. Examination showed ecchymosis of the upper left eyelid and under both eyes. The nasal bones were deviated to the right side, and the bridge of the nose was easily movable. The left nasal bone was somewhat depressed; the tip of the nose was deflected to the left, while the nasal bones inclined to the right. On examination of the nostrils the septum was found to be deviated anteriorly into the right nostril at about the junction of the bony and cartilaginous septum. On pressing the nasal bones to the left, the septum straightened itself, but not completely. The nasal bones were movable, the fracture appearing to be at their junction with the frontal and superior maxillary articulation. The fracture was compound, for bleeding occurred from the right nostril on moving the bridge of the nose laterally. The nasal bone on the left side was depressed from an old fracture, dating back several years. The splint, as shown in Fig. 2, was applied, and at the same time the depressed nasal bone was pushed into place from the inside and held there by a pledget of antiseptic wool. This had, however, to be removed within ten days on account of pain and discomfort, as the patient was unable to bear it. The splint caused no discomfort, and the septum and nasal bones under its pressure returned to their normal position. The splint was kept on twenty-five days, and the nasal bones were found to be firmly fixed in position. The only inconvenience resulting from the splint was a slight reddening of the skin at the point of pressure of the pad. Figs. 1 and 3 show condition of nose before and after treatment.

Figure 4.

Case 2.—H. C., a girl, aged 8, entered the hospital with the following history: She was accidentally struck on the right side of the bridge of the nose by a base-ball bat. The physician in attendance writes me that the nose was so much deviated that a probe was with difficulty introduced into the left nostril. He, however, replaced the nasal bones as well as possible, and she entered the hospital for further treatment. Examination showed a marked deviation of the nasal bones to the left. On gently pushing the bridge of the nose it was found to yield easily, while on rhinoscopic examination, the septum was seen to alter its position from a considerable deviation to a nearly vertical position. The nasal bones were dislocated from the nasal process of the superior maxilla, and were movable upon each other. The splint was applied, as shown in Fig. 4, and kept on two weeks, leaving a nose apparently perfectly straight externally, and showing internally a nearly vertical septum without any obstruction of either nostril. No discomfort resulted from the splint, nor were there any marks of pressure on the skin except a very slight reddening.

11 Marlborough st.

DISCUSSION.

Dr. ROE—The apparatus devised by Dr. Cobb for the treatment of fracture of the nasal bones is an ingenious one, but he has evidently made it without previous knowledge of a similar instrument that was devised several years ago by Adams of London, called Adams' nasal truss, which is figured in Watson on "Diseases of the Nose." Longitudinal fractures of the bones of the nose, as a rule, require little or no retentive apparatus, for the bones almost always remain in place after the fracture is reduced; but transverse fractures of the nasal bones will not remain in place and therefore require retentive apparatus. In these cases I use both an external and internal support. I fit a metallic shield, usually made of aluminum on account of its lightness, cut and bent so as to conform to the size and shape of the nose before the injury. This is placed on the outside of the nose and held there by adhesive plaster. For the inside support, after the bones are replaced, I pack the vault of the nostril lightly with antiseptic gauze. Below this I insert a spring made of light brass spring wire, nickel plated. One arm of the spring passes up under the dressing, while the other rests on the nose. To guard against irritating the tissues, the arms of the spring are covered with rubber tubing. The tension of the spring can be so regulated as to give the exact pressure required. The pressure in these cases should always be light, for the reason that very little is required to retain the bones in place, there being no muscular action to displace them. Moreover, if there is undue pressure the dressing at once becomes irritating and unbearable. In some cases Adams' truss or Dr. Cobb's apparatus might be of special service, but I have found no cases in which the plan I have described has not given most excellent results.

Codman & Shurtleff,
Boston.

Dr. STUCKY—I have tried Dr. Roe's method and I find that the cotton or gauze produces considerable irritation. I now use a modification of Asch's tube, and get very good support. I tried sheet lead outside, but found it heavy, and now use dental rubber. I bend it and hold it with rubber adhesive strips. I put the Asch tube in hot water until it becomes pliable and then apply it.

The CHAIRMAN—I have used satisfactorily a plaster of Paris dressing. It is not always possible to get a splint such as has been described, and in two cases I have had difficulty in keeping splints from slipping. I have the patient lie down and adjust a plaster of Paris mask. This is made quite thick over the nose and in the angles between the nose and cheek; curvatures in the upper contour are left for the orbits, and it then spreads out over the cheeks to the ears. It should be lined with thin rubber cloth. The fragments should be previously adjusted and maintained in the right place by pressure during the "setting" of the plaster. Tie the mask by a couple of tapes, one over and one under the ear, coming together behind the head. The results have been very good. If you wish to get additional pressure, take a bit of cotton and put it within the mask where pressure is desired, when you dress the case, every day or two, adding cotton as you require pressure. An intra-nasal tube or splint is sometimes necessary in addition. The only objection to this method is the temporary disfigurement.

Dr. ROE—I have never found any bad results from internal support if there is not too much pressure. Pack with cotton lightly, not too firmly.

Dr. COBB—We have tried the plaster mask in the Massachusetts Hospital and it did not seem strong enough. Masks of metal, though they kept the relative position of the nasal bones, did not keep the whole bridge from deviating one way or the other. Possibly a combination of splint and bandage might do well.

CERTAIN CONDITIONS OF THE TONSILS WHICH LIMIT THE USEFULNESS OF THE TONSILLOTOME.

Presented to the Section of Laryngology and Otology, at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, Pa., June 1-4, 1897.

BY ARTHUR AMES BLISS, A.M., M.D.

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PHILADELPHIA, PA.

It seems a safe assertion to say that the tonsillotome is the instrument most frequently selected by the surgeon in the performance of tonsillotomy. In most instances, however, I think that excision would be more effectually done by other means than by the guillotine-knife.

This opinion may appear easier of acceptance or denial, if we think for a moment why we should excise a tonsil at all. The operation is done either for the removal of a mass from the fauces which occludes the respiratory tract and interferes with phonation, or for the purpose of freeing the throat from the presence of tissue already so abnormal that it readily becomes infected by any micro-organisms which produce an inflammatory process. In either event, unless the work of excision is done thoroughly, the end sought is not attained, and the instrument depended upon has failed in its work. Why should the tonsillotome be an instrument peculiarly well adapted by its size, shape and action to fail in its work? This question may be answered by considering the conditions usually presented by the class of tonsils where the operation of excision is justifiable.

The text-books of anatomy tell us that the tonsils are almond-shaped masses of lymphoid tissue placed within the somewhat triangular-shaped space between the palato-glossus and the palato-pharyngeus muscles; that they are about one-third of an inch wide by three-fourths of an inch long, the vertical being the longer diameter. There are many such tonsils, yet, even within normal limits, there are such enormous variations from this standard that such divergences can not always be considered evidence of disease. The tonsils lie at a point where in embryonic life a very complex development is in progress. Between that anterior end of the fetal fore-gut which pushes itself upward beneath the hind-brain, and the invagination of the epiblast which forms the stomodeum, lies the "primitive velum," separating the fore-gut from the anterior region of the future mouth. This hypo-epiblastic membrane will soon disappear, and the mouth will be formed part from the hypoblastic element of the fore-gut, part from the epiblastic element of the stomodeum. Both of these elements enter into

the formation of the tonsils; while, in the meantime, nose and mouth are as yet unseparated, and all the possibilities of arrested or asymmetric development lie in the immediate future. In other words, in no part of the body are variations in growth, arrest or unsymmetric development more common than in this naso-faucial region. This complexity of development may account for that great variation in the tonsils which render them an exceedingly difficult structure to classify under a distinct standard of normality.

I think that within a strictly normal condition the upper extremities of the tonsils should appear, when the mouth is opened and the tongue slightly depressed, about on a level with the dorsum of the tongue at the plane of the fauces. The posterior faucial pillars above this point should not be concealed by an extension upward of the tonsils, nor should the latter be prominent at the sides of the base of the tongue. The free surface of the tonsils should not project into the faucial space beyond, or but very slightly beyond, the level of the free margins of the anterior and posterior faucial pillars, nor should these pillars be attached to the tonsils of their respective sides.

I think that this rather negative description of the tonsils will include that great variety of shapes and sizes which these lymphoid masses assume, even within limits that are not essentially pathologic. I believe, too, that a tonsil which transgresses my rather broad limits will do one of two things—possibly both. It will narrow the caliber of the oro-pharynx, thus interfering with proper respiration and deglutition, or it will press upon the base of the tongue or upon the velum palati, so as to interfere with the proper movements of these parts in phonation.

Two varieties of tonsils will do these things, the simple overgrowth, or simple hypertrophy, and the tonsil enlarged as the result of inflammatory processes, either now quiescent or still active. The tonsil simply overgrown stands out clearly defined from the sides of the fauces; is soft in consistence; is free from adhesion to surrounding parts, and is covered by the pale pink mucous membrane of the mouth.

The second variety of enlarged tonsil, however, presents most varied degrees of distortion. It is generally crossed by a wide band of connective tissue, commonly sweeping backward and downward from the anterior faucial pillar. Instead of such a simply formed capsule, the covering membrane may assume the form of bands lacing in different directions, like the meshes of a net or the intercellular walls of a honeycomb. In either variety the capsule renders the tonsil a hard, rubber-like mass, adherent to the anterior pillars, and often concealing the posterior pillars—to which it may also be attached—and extending upward almost to the base of the uvula. Such a tonsil may be smooth on its free surface, if the tissue has not been subject to frequent attacks of inflammation which have resulted in the formation of abscesses. It is apt to lie, much as the eye does between its lids, the capsule simulating the latter and producing a large, firm, smooth, rounded mass, whose margins are not sharply defined, but lose themselves in the surrounding tissues of the velum, faucial pillars and pharyngeal wall. If abscesses have occurred, the smooth surface will be broken by masses of irregular ragged projecting tissue, separated from one another perhaps by deep recessions or pockets, in many of which lie large masses of cholesteatomatous material.

There is still another form of tonsil which requires excision, an especially vicious variety. I refer to the hard nodular sclerosed tonsil, diffused irregularly over the space between the faucial pillars, usually adherent to them, and yet appearing to be small in size. Such a tonsil is almost entirely enveloped by a fibrous capsule, extending usually from the anterior pillar and enshrouding the free surface of the lymphoid tissue. By contraction of the capsule, perhaps, or from some other cause, the tonsil appears to be rotated backward, so that its free lateral surface presents backward and inward toward the posterior wall of the pharynx. By means of a blunt hook passed around its posterior margin, such a tonsil can usually be drawn forward, so that traces of an exposed lymphoid surface can be seen. This variety of tonsil readily takes on an inflammatory process, and even when not flaming out in vicious attacks of tonsillitis, is apt to maintain a condition of irritation or even inflammation in the pharynx and larynx.

Now the tonsillotome can excise only such masses of tissue as will engage within the ring-frame of its guillotine-knife. It can be of no service whatever for the sclerosed and contracted tonsil. It can not grasp the large diffuse encapsulated tonsil, because its frame can not embrace such a growth, whose bulk is not clearly defined, but which merges into the surrounding tissues, while its free surface is covered by a smooth hard slippery capsule. By firm pressure against the free surface of such a mass, a small amount of tissue may be squeezed through the frame of the tonsillotome, and when this shaving is gashed off the instrument has performed all that it can do.

In the case of the large simple hypertrophy, there is a limited field of usefulness for this instrument. The caliber of the ring-knife's frame varies from three-quarters of an inch to one inch in its long diameter; its width is seldom more than three-quarters of an inch. Its long diameter is usually parallel with the shank of the instrument, while, as shown long ago by Dr. Carl Seiler and others, it should always be set at a right angle to the shank, thus corresponding with the position at which the tonsils lie in the fauces. Even when so set, however, it will serve only for instances where the enlarged tonsils do not exceed the limits of its ring, while in not a few instances we see these simple hypertrophies so large as to extend from the base of the uvula almost to the free upper margin of the epiglottis. Yet in those cases in which the tonsillotome will surround and excise the bulk of the growth, it fails to remove those portions of the mass which very often are most productive of irritation. I mean the extreme lateral portions, in cases where the tonsil has so filled the tonsillar space as to press upward against the velum palati and outward against the faucial pillars. The free projecting mass may have been removed, but these offending portions remain, still causing pressure and irritation and ready to become inflamed. Now, I believe that an operation even so comparatively simple as tonsillotomy had better not be attempted unless it is performed thoroughly and effectively. It seems apparent that the tonsillotome—that most generally used agent for excision—can be relied upon to do effective work only in that very limited proportion of cases which I have indicated. I can not but think that its imperfect work has done much to bring a certain discredit upon the operation of tonsil excision and may account for the not infrequent reports among the laity that the tonsils

have "grown again" after an excision has been performed.

In place of the tonsillotome I prefer an instrument which permits of a dissection of the parts to be removed from the surrounding tissues, a method of precision which does not leave the amount to be removed to the chance of engagement or non-engagement of the ring-knife. This result is attained by the use of a small firm crocodile forceps (Farnham's forceps) held in one hand and by means of which masses of the tonsil tissue are grasped. The parts thus held are excised by means of stout-bladed scissors whose handles are set at an angle from the blades so that the field of operation is not hidden by the operator's hands. The bulk of the tonsil mass is quickly cut away, and then the parts lying between the faucial pillars are carefully drawn out and excised. In adults this work can be done under cocain. In children it is more frequently necessary to employ general anesthesia by ether, and use a mouth-gag. This is held by an assistant, who also holds the patient in a sitting position, thus permitting the blood to escape freely from the mouth. As in children hypertrophied tonsils are so commonly associated with hypertrophied adenoid tissue in the naso-pharynx, this method enables us also to combine the operation for the removal of this latter mass and the tonsillotomy under the one etherization. Dr. John Farlow of Boston, has devised a powerful cutting forceps for the tonsils, which he calls the "tonsil punch." It is a useful instrument in cases where the size of the patient's mouth permits of its employment. I have not found it of use in the mouths of children, owing to its large size. The operative procedures briefly indicated can be modified by the use of a great variety of instruments. Reference is simply made to this general method of operation as being in the great majority of cases vastly more effective than the action of the tonsillotome.

THE TREATMENT OF CHRONIC INFLAMMATION OF THE TONSILS.

Presented to the Section on Laryngology and Otology, at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, Pa., June 1-4, 1897.

BY J. A. ELLEGOOD, M.D.
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The brevity of this paper will preclude the consideration of inflammation of the tonsils due to syphilis, tuberculosis, lupus and malignant disease. Chronic amygdalitis is primarily and essentially a chronic disease of the tonsillar crypts, and rational treatment must aim at their destruction or removal. While usually attended with hypertrophy, such is not always the case. The enlargement is often so slight as to be hardly appreciable, and the morbid process is of so low a grade as to present, except at occasional intervals, but few of the usual features of inflammation. Knight has divided hypertrophied tonsils into three groups: 1, those that are decidedly increased in volume and constantly project beyond the palatine arches; 2, flat diffuse tonsils which project but slightly into the fauces except during the act of retching; 3, those that encroach upon the pharyngeal space and yet do not appear beyond the free margin of the half-arches, for the reason that in consequence of repeated attacks of inflammation the interior pillar has become firmly adherent. In process of enlargement the tonsil carries with it the palato-glossal fold, which may be much thicker than normal or may be spread out over the surface of the tonsil in a thin veil of mucous membrane. In chronic inflammation much of the stroma may have degenerated into cicatricial tissue enclosing some infected crypts which may be partially or entirely closed. Such tonsils, although presenting an atrophic appearance, are in a state of chronic inflammation. The development of cicatricial tissue is usually the result of repeated acute attacks. Hypertrophied tonsils may be hard or fibrous, and soft or adenoid. As a rule, the older the patient and the longer the disease has existed the more dense, fibrous and highly organized the tissue; whereas the younger the patient and the more recent the hypertrophy the softer and more spongy the tonsil. While tonsillar hypertrophy tends to disappear with puberty, its ill effects upon the general health and permanent injury to neighboring organs before that age is attained may be very marked and are well known. The marked improvement which almost invariably follows its removal is a striking confirmation of its harmfulness. The treatment of chronic tonsillitis must be adapted to the age and general condition of the patient and to the condition of the inflamed tissue. The removal or destruction of the diseased follicles being indicated we have to consider the best means of accomplishing this end. But little can, at best, be expected of constitutional treatment, since whatever constitutional defects or weaknesses that are associated with chronic inflammation of these organs are rather the result than the cause of the tonsillar trouble. Local applications of iodin and astringents brushed over the surface of the tonsil for the purpose of causing their resorption are of questionable utility. Of still less use is the absurd practice of application of iodin or its compounds to the skin over the region of the tonsils. We will first consider the treatment of that class of chronic tonsillitis characterized by decided increase in volume and encroachment upon the faucial space. This form of hypertrophy is most frequently found in young children and is spongy in consistence. The surface of the tonsil is usually comparatively smooth and the growth more or less pedunculated. In some cases, however, the surface is irregular or lobulated, the irregularity being usually the result of repeated acute attacks of inflammation or to distended crypts. The best and most expeditious method of treating the majority of such cases is by excision with the guillotine. The choice of instrument must be left to the individual operator. The operator must select his cases in using the knife. He must assure himself that there is no tendency to hemophilia. The operation should not be done on acutely inflamed tonsils, for a lacunar tonsillitis is often diphtheritic. Neither should it be done during a general febrile condition of the patient nor during an epidemic of croup or diphtheria. It should be done with extreme caution on patients past the age of puberty. Every facility should be at hand in all cases for arresting hemorrhage. The tonsils of patients who have arrived at the age of puberty are likely to be more fibrous and it is in such cases that excessive bleeding is liable to occur. In fact, at that age, unless such growths are decidedly soft or pedunculated, the knife should be used with great caution. The best time for operating is in the morning, as it is well to have as long a time as possible to elapse before the patient assumes the recumbent posture. The use of general anesthesia is

seldom necessary. The operation is not a very painful one and a little tact will, in most cases, obviate the necessity of general anesthesia. Any child that will quietly submit to etherization will as quietly submit to tonsillotomy, for the distress of the former exceeds the pain of the latter. When force becomes necessary to overcome the objections of the patient the shock of an anesthetic is no less than when the operation is performed without it. Besides requiring more time general anesthesia adds its own danger and increases the tendency to hemorrhage. When used, the choice of an anesthetic must be left to the operator. The writer prefers nitrous oxid. In using the guillotine without general anesthesia, on tractable patients with fairly large tonsils, a weak (2 to 4 per cent.) solution of cocain may be brushed about the base of the tonsil a few seconds before the operation is performed. In intractable patients its use may be well dispensed with. A strong solution or the prolonged use of cocain increases the tendency to hemorrhage. As much of the tonsil should be removed as projects beyond the half-arches. It is true that in many instances the removal of a thin slice from the surface will be followed by atrophy. This is explained by the fact that the constricted orifices of many of the diseased and distended crypts are removed, giving an opportunity for free drainage. Hemorrhage usually ceases spontaneously in a few minutes. When moderately excessive, cold water, ice and the gallo-tannic acid mixture will usually succeed in arresting it. The prejudice that exists against the use of the knife is not confined to the laity and the specialist will frequently be confronted by the necessity of resorting to other means of reducing the hypertrophy. Next to the knife the galvano-cautery is unquestionably the best agent. Its application is painful, even when cocain is used within the limit of safety. Few small children can be induced to submit quietly to its use. Before being used the lacunæ should be carefully sought and cleansed, and in some cases curetted. To sear the orifice of a dilated crypt filled with infectious material is but to intensify the condition it is intended to remove. A cherry red electrode should be well introduced into the crypt and retained for a few seconds. It should be made to burn its way out through the constricted orifice. As only a few crypts can be treated at one sitting, several treatments at intervals of from one to two weeks will usually be required. The reaction is usually not very great. Thorough curetting and cleansing of the crypts, followed by the application of tincture of iodin, or a bead of nitrate of silver or chromic acid fused on a probe, will in most instances be followed by good results. This treatment though protracted has the advantage of practicability. Few parents or patients will object to it. Cocain can be used and the operation made painless. The cocain solution should be carried well into the crypts by means of a cotton wrapped probe. More prompt results can be had if after cleansing and curetting, the tonsil knives devised by Dr. Leland of Boston are used. The olive-shaped tip of the knife is introduced into a crypt in the upper part of the tonsil and then turned downward and inward and made to come out by another in the lower part. The substance of the organ between these two holes is then cut through. This can be repeated from three to ten times at a sitting, until the surface of the tonsil presents the appearance of being full of slits. There is usually not much bleeding and this knife can oftentimes be introduced to its fullest extent without danger. Nitrate of silver, chromic acid, trichloracetic acid or tincture of iodin may be applied to the slits as well as to the crypts. This treatment will be followed by a satisfactory result in those cases in which from lack of consent or contraindication against the use of the knife, cleansing and applications of caustics alone can be used. Myles nasal curettes with malleable shanks are very satisfactory for curetting the crypts. The writer has not had satisfactory results from the application of hydrochloric acid as suggested by Kendall. The cold wire snare causes great pain. The galvano-cautery snare is sometimes useful in fibrous tonsillitis. In many instances the guillotine can be successfully used on the flat diffused tonsils by having an assistant press over the region of the tonsils, causing them to project into the pharynx. Only a small or thin portion may be removed, but the thin slice will contain the constricted orifices of several crypts. Many of the methods suggested for the treatment of the first group of hypertrophies will be applicable in the treatment of the second and third. The writer has obtained most satisfactory results from galvano-puncture in flat diffuse tonsils. If after the destruction of as many crypts as can be found there still remains a considerable portion of hypertrophied tissue, its reduction can be speedily accomplished by puncturing the stroma with a galvano-cautery wire. About half a dozen punctures distributed at about equal distances and extending to a depth of from one-fourth to one-third of an inch should be made at a sitting, and repeated in from ten days to two weeks. Dr. Arthur A. Bliss has devised a pair of scissors for the removal of this class of hypertrophies. Leland's curved tonsil knives are especially adapted to separating the adhesions of the tonsil from the anterior pillars of the fauces, after which it is usually possible to remove the hypertrophy by means of the guillotine. A great variety of reflex phenomena results in adults from chronic inflammation of the lacunæ. There may be little or no appreciable hypertrophy of the tonsillar tissue and the disease may be limited to a few crypts. These will often require careful search and be found, as a rule, at the upper part of the tonsil, the orifices being hidden behind the palatine folds. These diseased crypts contain decomposing cheesy material made up largely of leptothrix elements. They may contain chalky material. They should be emptied, cleansed, curetted and slit down to the lowest part. The thorough use of the galvano-cautery point will make the cure more certain. Fibroid degeneration of the stroma probably causes little trouble other than constricting the orifices of the crypts and preventing the escape of their contents. Chronic abscess, though undoubtedly having its origin in infectious material that has gained entrance through the crypts, is largely confined to the peri-tonsillar tissue. As much of the abscess wall should be removed as possible, the surface thoroughly cleansed and curetted, and brushed with pure carbolic acid.

Equitable Building.

Gelatin as a Hemostatic.—Carnot states that a solution of gelatin with a little sodium chlorid applied locally acts promptly as a hemostatic, healing by first intention being favored. The solution employed contained 5 per cent. of sodium chlorid. It was sterilized before use and brought to the temperature of the body at the time of application.—*La Presse Médicale.*

PERITONSILLITIS—ITS ETIOLOGY AND TREATMENT.

Presented to the Section on Laryngology and Otology at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, Pa., June 1-4, 1897.

BY KATE W. BALDWIN, M.D.
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Peritonsillitis, quinsy, phlegmonous pharyngitis, pharyngitis abscedens, peritonsillar abscess, parenchymatous tonsillitis and the other names under which this condition is described matter little, but to find the cause and relief of this frequent and most painful throat affection is of immense importance to those suffering from it. Schech classes it, next to tuberculosis, the most painful.

It is without doubt of bacterial origin. Cold, rheumatism, gout, trauma, in fact anything which lessens the resistance of the tissues, may predispose to, but not act as the exciting cause. Rheumatism, cold, trauma, etc., do not go on to suppuration unless accompanied by some member of the great family of bacteria; here we probably have a streptococcus. The tissues involved have been by many writers very loosely considered. Some state that the glandular tissue is primarily involved, the inflammation extending to the surrounding tissue. It is even described as parenchymatous tonsillitis. Others claim that it commences in the surrounding tissue and that the tonsil is only secondarily, if at all, involved. It may, and not infrequently does, follow an acute lacunar tonsillitis; however, quinsy proper is a peritonsillitis and should not be confounded with tonsillitis, a much less painful and less dangerous condition.

The locality is called by Chiari the spatium pharyngo-maxillare; and is bounded by the tonsil, the internal pterygoid muscle and the palatine arches. The swelling may extend into the post-nasal space, causing complete obstruction between the nose and throat and may also descend toward the larynx producing edema of the latter and threatening dyspnea.

Untreated the disease usually goes on to suppuration, every day adding to the pain and all other symptoms, until the pus is evacuated, which usually occurs within fourteen days, through the anterior palatine arch, but may be through the posterior palatine arch or below the tonsil. The pus may burrow into the cellular tissue of the throat, into the esophagus, into the mediastinum, the submaxillary gland or the muscles of the tongue. There may be erosion of the carotid artery, or general septicemia may follow. In one case recorded as quinsy, there were repeated hemorrhages, causing the death of a patient. Even in untreated cases the prognosis is good, exceptional cases however occur. Much suffering may be avoided by painstaking and thorough treatment, and it is to this that I wish to call special attention.

Many remedies have been suggested for the treatment of this painful affection, but from none have I seen the good results that come from the use of the spirits of turpentine. I do not find it mentioned in the books, but claim no originality in its use for the treatment of quinsy, it having been suggested to me by Dr. ————, who some five years ago was doing special work at the Philadelphia Polyclinic, he having learned of it through a German physician. There being an abundance of material at the Polyclinic, Dr. Freeman was quite glad to have me test its efficacy, and kindly turned over to me all the cases that presented.

For several years I have treated all cases coming under my observation, both private and dispensary, in the following manner. Thorough cleansing of the throat and nose with a mild alkaline solution, followed by the application of the spirit of turpentine, equal parts with the compound spirit of lavender, disguising the taste of the turpentine by the addition of a few drops of the oil of anise or gaultheria. In some cases I use the turpentine full strength. This is applied to all the inflamed tissue, as thoroughly as possible, with cotton on a fine applicator, behind the soft palate, into the crypts of the tonsil and where possible between the tonsil and the pillars of the fauces. For use between visits, I order the patient to apply the above mixture every one to three hours. A mercurial followed by a saline laxative is usually indicated—in the rheumatic or gouty subject appropriate constitutional treatment must be instituted. In other cases I use codein to control the pain. As much nourishment as can be taken, either hot or cold as most comforting to the patient. If seen early, this treatment will abort an attack; later, will prevent the formation of pus and the involvment of the opposite side. It will, in nearly all cases prevent involvment of the opposite side even though pus be already present on the one affected. From a number of physicians, using this plan of treatment, I have had most favorable reports, one reporting equally good results from its use in tonsillitis.

Without detailing special cases I will say that all I have thus treated testify in favor of this over all other methods of treatment, many of these patients having had repeated attacks and treatment by many different methods. After the turpentine treatment some have never had a second attack, others, who were accustomed to attacks of peritonsillitis every two, three or four months have gone two or three years without any recurrence. In advanced cases where the mouth can be but slightly opened, it will require skill in the use of light and instruments to thoroughly treat a case. After the acute attack has subsided the throat and nose should be put in as good condition as possible, great care being taken to remove all adhesions between the tonsil and the surrounding tissue. Instruct the patient to report at once upon recurrence of symptoms pointing to another attack.

As a germicide Koch reports: "Oil of turpentine destroys anthrax spores in five days but failed to do so in one day. The development of anthrax spores is prevented by 1-75,000."

Rudling states that the addition of 1-200 to nutrient gelatin prevents the development of bacteria.

I have said nothing of symptoms, they being so characteristic that once recognized can scarcely be mistaken. The position of the head, and the peculiar contortions of the face with every attempt at swallowing, with more or less fixation of the jaw, is quite sufficient for a diagnosis, in the majority of cases, without even inspecting the throat.

DISCUSSION ON PAPERS OF DRS. BLISS, ELLEGOOD AND BALDWIN.

Dr. SEISS—The tonsil exists in all the higher mammals and is recognized by all comparative anatomists. I like Dr. Bliss's scissors very much. In connection with the use of turpentine mentioned in Dr. Baldwin's paper, it occurred to me that I get the best results in such cases from pine-needle oil, used in an atomizer.

Dr. MYLES—Follicular tonsillitis has given me more trouble than any other form. I have found that this condition in early childhood will spread and extend upward into the soft palate

very deeply. I have never been able to use the scissors and knife in these cases as deeply as I would like, because when I seized the tonsil with the forceps it would break loose. I have used the punch forceps to take out quite large pieces. You must work quickly. My experience is that peritonsillar abscess is a certain form of cold abscess which is likely to recur. Two or three times a year the locality undergoes a rapid suppuration for several days. As to the turpentine treatment, I remember a queer experience I had in the South. An old farmer asked me why doctors spent so much time on a little thing like the throat, and added: "When any of my niggers have sore throat, I mix turpentine, sulphur and lard and rub it in, and they get well."

Dr. COULTER—I apprehend that no one instrument will be satisfactory in the hands of all operators. We become accustomed to a certain form of instrument, and each can do better work with his instrument than any other man can, and vice versa. I understood a statement in Dr. Bliss's paper, that he said the top of the tonsil should be a little above the level of the tongue.

Dr. BLISS—That is when the mouth is open.

Dr. COULTER—I have found that the larger part of the tonsil was buried almost under the pharyngeal aponeurosis, often being completely enveloped in the pillars. I am satisfied that the tonsil extends higher up than we have ordinarily thought and that it is almond shaped rather than olive shaped. Dr. Ellegood says that in all these cases the tonsils should be destroyed. I contend that destroying the tissue and leaving it to cicatrize is not necessary, though it may be proper in a certain number of cases. Theoretically it may be all right, but practically it is not. You can not tell how deep into the crypts you are going, and, especially in singers, you leave a cicatricial tissue that makes the case worse than it was.

Dr. BLISS—Dr. Seiss was quite correct in thinking that I did not mean to remove every large tonsil simply because it was large. I referred only to the class of tonsils indicated in my paper, which was on the use of the tonsillotome. I have used the tonsil punch, and it is an excellent instrument, but rather a clumsy one. I think that if Dr. Myles would use the crocodile forceps he would have no trouble in holding the tonsil. These will grasp the tonsil so firmly that it can not slip away. As to the high distribution of the tonsils, I have not found that as a normal condition; it is more a pathologic condition. Such tonsils are more likely to contain material in their crypts. There are many such tonsils as the result of a pathologic process.

Dr. ELLEGOOD—I have never had any difficulty in applying the cold snare to the crypts. I prefer not to use galvanopuncture, except in cases of flat tonsil where the orifices of the crypts are difficult to find. The galvano cautery merely destroys the surface.

MUNICIPAL CONTROL OF DIPHTHERIA.

Presented in the Section on Laryngology and Otology at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, June 1-4, 1897.

BY W. K. JAQUES, Ph.M., M.D.

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CHICAGO, ILL.

The prevention of disease is the province of the municipal health department. The treatment of disease is in the hands of the medical profession whose members have spent time and money to acquire the necessary knowledge, and who stand within that sacred circle of domestic confidence essential in the treatment of disease.

The only tenable ground the munipal health department can take is that of assisting the family physician and there should be no friction between them. The health officer should be careful not to infringe upon the prerogatives of the family physician, who should be high-minded and generous enough to commend the enforcement of public hygiene and respect a power that is greater and broader than his for the prevention of disease.

The improvement of a race or species can only be accomplished during its period of development. No scientific mind can study the effect of ptomain poisoning on the growing child and fail to appreciate the importance of preventing contagious diseases in childhood.

No child can reach the same mental and physical development after severe ptomain poisoning. The intellect demands for its symmetrical development the perfect transmission of accurate impressions from the outer world. These come through the five senses. The partial closing of one of these avenues means a lessened power of acquisition and a one-sided mental growth.

No one, not so afflicted, can appreciate the disadvantages of impaired hearing. A child with this defect has a tendency to become slow and morose; is misjudged and misjudges others. Many men and women, who otherwise would have been useful members of society, have been miserable failures because of impaired hearing.

The results of diphtheria ptomain poisoning are not so well known as those of scarlet fever, because that portion of the economy most susceptible to the poison is the vital centers. Hence the difficulty of definitely estimating the insidious and far-reaching effects of the poison. The malignant type of diphtheria may some times be followed, sooner or later, by impaired kidneys, paralysis of the recti muscles causing strabismus, partial nerve destruction, paralysis of the larynx, or a partial arrest of general development. Complete restoration to normal health following any of these conditions depends upon the extent and severity of the injury. As before stated, it is improbable, most often impossible, that these effects may ever be effaced.

Carlo Ceni[1] and Robert J. Berkley have made studies of the lesions induced by the action of diphtheria poison on the nerve cells. Both made the same conclusions. Dr. Berkley says: "From the studies conducted on the cerebra of diphtheritic guinea pigs, it would appear that all severe infections were followed by brain cell degeneration, a degenerative process unaccompanied by inflammatory reaction and a tendency to atrophy and necrosis."[2]

During 1896 I administered antitoxin to a large number of children in various stages of profound ptomain poisoning with 75 per cent. recoveries; but I noted that quite a number of these died during the following six months. The family physicians diagnosed the causes as Bright's disease, inanition, marasmus, appendicitis, summer complaint, etc. Some of these deaths were no doubt due to gradual brain cell degeneration and necrosis induced by the Klebs-Loeffler toxin.

Diphtheria is both a preventable and a curable disease. A death from diphtheria is now considered by the best physicians in the same light as puerperal fever, namely, the result of ignorance in the physician, or attendant, or both. Could every child have the fullest scientific protection, there need not be a death from Klebs-Loeffler diphtheria. Our duty to the race demands that every precaution should be taken to prevent contagious diseases among children. As long as the child remains at home, the responsibility of giving this protection rests upon the parent. As soon as the child is sent to the school, the store or the factory, it becomes a ward of the State and should have its protection. The prevention of diphtheria then divides itself into, the protection of laboring

[1] Carlo Ceni, Riforma Medica, Vol. I, 1896.

[2] Johns Hopkins Hospital Bulletin, Feb., 1897.

children, the protection of school children and the children at home.

Over thirty-five thousand children are working for wages in the city of Chicago. In the crowded cars, department stores, and factories they are constantly subjected to contagion and become one of the most prolific means of its spread. They carry the germs home and infect the other members of the family, who may be attending school or kindergarten. These in turn infect their playmates. The doors of our public schools are open to children from any home whether over a stable or on the boulevard, whether it be composed of one room or twenty; whether it be as healthy as sanitary science can make it or filthy as the abode of savages. The public school room below the grammar grade is a perfect clearing-house for the exchange of mouth germs. The average child is not troubled by the niceties of older people, who, however generously inclined, do not exchange eatables and personal effects with such freedom as is done in school. Children at home are usually infected by those members of the family who are at work or in school; hence the prevention of the spread of contagion in the school and factory is one of the most efficient ways of protecting the home.

Competent medical supervision and inspection of schools and every place where there is child labor, offers a great field for work the benefits of which will extend beyond those directly affected. There are many pupils in our public schools with defective sight and hearing that could easily be remedied if discovered early and properly treated, while child labor is employed under conditions the heathen nations would not tolerate.

The State has every right to throw rigid restrictions around child labor for her own protection. Unless done in harmony with the laws of mental and physical development, it works a two-fold injury; first to the child itself, and second, to the coming generations.

Medical inspection should be done with the organized system that characterizes scientific work. The services of the best specialists should be obtained to direct the efforts of the medical inspector, for the most valuable results await the adoption of scientific methods in the formulation of laws governing child life.

However valuable it would be in other diseases, medical inspection would derive its most brilliant results in the prevention of diphtheria. During the winter season when it is most prevalent, the inspector should instruct teachers and employers in the symptoms of infection. He should make cultures from the throats of those who have been exposed to contagion as well as from returning convalescents before permitting them to re-enter school.

Some of our cities are a long way from the adoption of scientific medical inspection and until municipal authorities see the feasibility of such methods, we must control diphtheria with the best means we have at hand.

During the winter of 1895–96 the southern half of the city was put in my care by the Chicago Health Department, to assist in controlling a threatened epidemic of diphtheria.

Having given ten years of special study to the disease, and tried faithfully every remedy that my judgment approved, or the experience of others recommended, I was well prepared to judge of the value of antitoxin. The experience of that epidemic taught me two things: The value of antitoxin as a curative agent, and the importance of an early bacteriologic diagnosis as the most important measure for the prevention of the disease.

If within a few hours of the first call of the physician to see an inflamed throat, the infectious nature of the disease is known and the child isolated, the spread of the infection may be stopped. Those who have seen families, schools and whole communities infected before the malignant nature of the disease was discovered, will appreciate the importance of having infection stopped at the first case.

The bacteriology of diphtheria demonstrates the great rapidity with which the Klebs-Loeffler bacilli multiply under favorable conditions. The microscope has enlarged our vision and enabled us to see these germs, while scientific methods have formulated laws governing their existence. It is the application of these laws that gives us control of this disease; hence the successful prevention of diphtheria depends upon a thorough knowledge of the bacteriology of anginas.

All anginas manifesting membrane should properly be described as diphtheria, since its derivation is from the Greek word meaning membrane. However, since the Klebs-Loeffler bacillus has been found to be the chief cause of mortality in anginas, only those cases where it is present are usually called diphtheria.

The germ or germs which are the chief causative factors in producing this disease are most sensitive to environment, by which is meant all the conditions influencing the life of the germ as well as that of the patient who furnishes the soil for invasion.

Environment is continually changing. No two consecutive days have the same amount of sunshine, heat or moisture. Each season brings conditions which have their influence on the germs of the membranous anginas. With a knowledge of these facts it is readily comprehensible why the anginas of one year, or of one season, should differ from those of another. If the conditions are favorable to the virulence of a certain germ, it will prove the causative factor of the anginas of that year, subsiding into a secondary position with new conditions which favor the virulence of another germ.

The bacteriology of the anginas of 1896–7 has presented many interesting differences from those of last year. At that time, nearly 75 per cent. of all inflammations, including those causing stenosis of the larynx, were due to the Klebs-Loeffler bacilli. At the close of this year, it is some member of the streptococci family that most often causes the invasion.

Following its invasion, each germ has a definite train of clinical symptoms characteristic of itself, and were it not for the fact that there are so many mixed infections, there would be little difficulty in making a diagnosis without the microscope. But it is seldom the case that a culture reveals only one germ; others are nearly always present, it may be as accessories in a minor degree to one germ causing the lesion.

In every mouth there are a number of pathogenic germs which are impotent except when favorable conditions are presented for multiplication. If constitutional resistance becomes weakened toward any one of the germs present, that one may become the exciting cause of inflammation.

This fact must be kept in mind when examining cultures microscopically, namely, to determine the invading germ and treat the case accordingly. The malignancy of a germ is usually determined by the

rapidity of its multiplication. When a germ acquires this malignancy, it is probably because the patient's antitoxic power is reduced. For instance: The case of a child was diagnosed as Klebs-Loeffler diphtheria and antitoxin administered followed by typical reaction and recovery. Three weeks later a second inflammation occurred, culture showing mixed infection with Klebs-Loeffler bacilli present. Antitoxin was again injected with no reaction. The case followed the usual course of a streptococcic angina. The patient was already antitoxinized against the Klebs-Loeffler bacilli, and although the germ was present, it had but little influence in the inflammation.

In laryngeal inflammations the staphylococcus causes simple spasmodic laryngitis; the streptococcus a stenosis of long duration, sometimes requiring reintubation or the substitution of tracheotomy. If the Klebs-Loeffler bacillus causes the stenosis, it is possible to be as positive of the action of antitoxin as of morphin; while the ratio of mortality becomes 15 to 20 per cent. instead of 80 to 90 per cent.

The staphylococcus is nearly always present in the fauces, and is always present in slight inflammation of the tonsils. The crypts of enlarged tonsils contain them and a slight cold causing congestion of the mucous membrane produces the necessary condition for disease.

Occasionally the staphylococcus takes on considerable malignancy, the temperature rising to 104 and 105, causing considerable constitutional disturbance. It is the invasion of this germ that results in simple spasmodic laryngitis. One of the chief characteristics is the short duration of the inflammation.

The streptococcus is the next germ in malignance, and has a wide range of virulence depending upon the conditions under which the invasion takes place. The point of invasion may be in the tonsils, but the entire tissues of the fauces are more likely to be involved, producing a dark red appearance with little or no membrane for thirty-six or forty-eight hours. The membrane is always small in proportion to the amount of inflammation. There is a tendency for the inflammation to spread back of the tonsils up into the posterior pharynx, invading the Eustachian tube, causing great difficulty in swallowing, also impairing the hearing. This is the most painful of all anginas, the most difficult to relieve and the slowest to recover. While the temperature in staphylococcus infection is high in the beginning and reaches a maximum in twelve or twenty-four hours, the temperature in streptococcus infection gradually increases to 102 and 103, remaining stationary for two or three days until influenced by treatment.

Symptoms are neither so apparent nor so alarming in the invasion of the Klebs-Loeffler bacillus. The germ seems to have an anesthetic action locally, and acts as a constitutional depressant. There may be little or no pain. The patient will be quiet, gradually going into a stupor. On examination of the fauces, membrane will be present either following primary inflammation or at first inspection. True Klebs-Loeffler diphtheria is the least painful of all anginas. The invasion usually takes place in the fauces, spreading to those parts of the mucous membrane which are susceptible, such as the nasal passages, the posterior fauces and the trachea.

During the past year the pseudo-bacillus has frequently appeared in the cultures. My observation leads me to think this germ is the Klebs-Loeffler bacillus changed in its morphology owing to the soil upon which it grows. My reasons are as follows:

1. Cases have resulted fatally with this bacillus as the invading germ, giving every clinical evidence that death was caused by ptomain poisoning.

2. The genuine Klebs-Loeffler diphtheria has been contracted directly from cases of pseudo-diphtheria.

3. The morphologic change between the pseudo- and the Klebs-Loeffler bacilli is no greater than is seen by growing the Klebs-Loeffler bacilli on blood serum and agar agar; or the change which the Klebs-Loeffler bacillus undergoes from the beginning to the end of a case of true diphtheria.

For these reasons, I advise the administration of antitoxin in cases where the pseudo-bacilli appear, and in most of these cases typical reaction follows.

Temperature is considered an important indication of the gravity of a disease. This rule must not strictly govern anginas, as the highest temperature is caused by a germ of the least malignancy, namely, the staphylococcus. In the worst form of Klebs-Loeffler diphtheria there may be not only an absence of increased temperature, but it is sometimes sub-normal.

The accompanying tables of the clinical symptoms of diphtheritic diseases during the first, second and third thirty-six hour periods are not assumed to be perfect, as they are compiled from a limited number of years' experience; but it is hoped they will form a substantial basis for further observation.

CLINICAL SYMPTOMS.

First Thirty-six Hours.

Diphtheritic diseases.	Temperature.	Local condition.	Mental.	Urine.	Bowels.
I.—Staphylo-diphtheria.	Rises rapidly to 103, 105.	Swoll'n tonsils with membrane appearing around follicles. Headache; pain.	Bright.	Diminished; highly colored.	Constipated.
II.—Strepto-diphtheria.	Rises gradually to 101, 103.	Invasion usually extended to large part of pharynx, posterior nares; membrane does not form rapidly; mucous membrane congested; covered with thick mucus; more pain than I.	Fretful and easily irritated.	Diminished; highly colored.	Constipated.
III.—Klebs-Löffler Diphtheria. 1. Mild.	99 to 101.	Redness with little or no swelling; small amount of white membrane; slight pain.	Normal.	. . . .	Constipated.
III.—Klebs-Löffler Diphtheria. 2. Moderate.	99 to 101.	Redness over more extended area than I; any part of pharynx, larynx and trachea.	Normal.	Norm'l or less in quantity.	Constipated.
III.—Klebs-Löffler Diphtheria. 3. Malignant.	99 to 101.	Redness, but not painful as strepto-infection; may be large or small amount of membrane in sight.	Dull; careless.	Normal.	Constipated.

Second Thirty-six Hours.

I.—Staphylo-diphtheria.	Decreasing, 101.	Membrane white with definite edges; less congestion.	Normal.	Normal.	Open; responded to cathartics or enema. Inactive.
II.—Strepto-diphtheria.	Stationary, 102, 103.	No improvement; thin membrane; tonsils will be covered if large; much pain in swall'wing.	Fretf'l loss of sleep.	Dark Color.	
III.—Klebs-Löffler Diphtheria. 1. Mild.	Stationary, 100, 101.	No improvement unless antitoxin has been given; membrane formed.	Normal.	Normal.	Active.
III.—Klebs-Löffler Diphtheria. 2. Moderate.	Stationary, 100, 101.	No improvement; membrane formed. Process stationary.	Normal.	Albumin.(?)	Constipated.
III.—Klebs-Löffler Diphtheria. 3. Malignant.	Stationary, 100, 101.	Membrane extending, glands may be involved.	Stupor.	Albumin. Less.	Normal or inactive.

Third Thirty-six Hours.

I.—Staphylo-diphtheria.		Normal.	Nearly normal.	Normal.	Normal.	Normal.
II.—Strepto-diphtheria.		Decreasing.	Beginning to improve if no abscess has formed.	Norm'l if no pus formation	Normal.	Normal.
III.—Klebs-Löffler Diphtheria.	1. Mild.	Decreasing.	Improvem't; membrane disappearing	. . . .	. . . .	. . . . .
	2. Moderate.	. . . . .	May change to 1 or 3 (III).	. . . .	. . . .	. . . . .
	3. Malignant.	Stationary or decreasing.	Membrane extending or glands enlarged; bleeding at nose; heart irregular; fetor from membrane.	Stupor, can be roused.	Albumin; anuria.	Paralyzed.

It may be observed from these tables that the symptoms which are most likely to attract the parent's attention to the child's throat, namely, pain and fever, are produced by the most common and least harmful germs. The Klebs-Loeffler bacilli may be present without any modification of clinical symptoms until the system is permeated with ptomain, and evidence of ptomain poisoning appears. If the nature of the disease has not been discovered and antitoxin given before this stage is reached, the chances for recovery are greatly reduced—if not entirely shut off—for, as before stated, the action of diphtheria poison is destructive. Antitoxin can not restore destroyed kidney tubules, blood corpuscles or nerve centers. It must be given in time to prevent this destruction. A culture from the throat will show in a few hours if the germs are present, and upon the proper use of the culture, more than anything else, depends the control of diphtheria. With it, we can tell not only the presence of the germ in those who are sick, but can estimate the exact limit of infection in those who have been exposed to the contagion.

The earlier the diagnosis the greater its value. To get an early diagnosis without infringing on the rights of the family physician is the problem which the health department must solve.

In the City of Chicago, and I presume it is more or less true elsewhere, the major part of practice is in the hands of physicians who graduated in medicine before there was a department of bacteriology. These physicians are the first to see cases and they are the proper ones to take cultures. If they have to call in an expert to make the culture, or have it done at an extra expense, the occasions when they find they were needlessly alarmed will cause them to neglect this important measure.

I have found that physicians are influenced in making a culture by the convenience with which they can have it done. The introduction into the culture outfits of the Chicago Health Department of the small metal boxes for culture media has had much to do with the large number of cultures obtained by the department. They were devised by me to meet the requirements of the general practitioner. Properly prepared, they will keep indefinitely. They are strong, light and small, so that several can be carried in the pocket or bag without taking valuable space. After inoculation the box can be placed in the watch pocket near the body and incubation begins at once.

What is of greatest importance, these boxes may be examined many times during the development of the culture without affecting its progress. This is done by the Klatsch method—the pressing of a clean cover glass on the surface of the serum. A sufficient number of the germs will adhere to be fixed and stained, at the same time preserving their characteristic arrangement. Thus the rapidity of the growth can be noted and something of the malignancy ascertained. A diagnosis can often be made as soon as the box can be examined. When this can be done it is of importance in indicating malignancy.

During the past year I have made an immediate diagnosis in about one-third of the diphtheria cultures; another third required six hours incubation, and the remaining third ten hours.

A physician can carry one of these boxes in his pocket and when called to a suspected case of diphtheria, with a little absorbent cotton on a probe, he can inoculate the box and prescribe treatment. Diphtheria or the health department need not be mentioned. By his next visit he is fortified with a positive diagnosis. If he has to send to a station for a cumbersome outfit, inoculate and send it to a distant laboratory and wait eighteen to twenty-four hours for a diagnosis he is placed in an embarrassing position. His procedure has alarmed the parents and his uncertainty will not inspire confidence. If the report shows no necessity for the alarm, confidence in his judgment will not be strengthened and he will naturally avoid a repetition of the occurrence.

To test the efficacy of convenient methods, a sub-laboratory was established at my office by the health department during the past winter for the use of the physicians on the South Side.

Until December 15 there was only now and then a sporadic case of Klebs-Loeffler bacilli among the numerous cultures showing streptococci infections. Then in three days I had nineteen rapidly growing cultures of the Klebs-Loeffler bacilli taken from patients among the wealthy families of Kenwood. The family physicians in these cases received their diagnoses, some of them in two, all of them within six hours; the patients were immediately isolated and given antitoxin. All recovered and there was not a second infection from any of the cases as far as could be learned. Several deaths occurred in the practice of those physicsans who did not use a microscope to make a diagnosis.

During the past season I have made nearly five hundred bacteriologic examinations. About 30 per cent. of these revealed the Klebs-Loeffler bacilli. The records show that those physicians who availed themselves of the bacterial diagnosis had no deaths from diphtheria.

No small part of this excellent result was due to the high quality of the antitoxin that was used.

The health department renders the physician valuable assistance when it places within his reach a reliable grade of serum. Not having the government guarantee possessed by the European physician the next best thing is to possess the guarantee of our municipal health department, who conserves its own interests in protecting the interests of the people. The health authorities can acquaint themselves with reliable manufacturers of antitoxin and in the laboratory they have the means of testing its quality. Antitoxin should be furnished to physicians at as low a rate as possible. Diphtheria is emphatically a disease of the poor. To avoid delay and not endanger life a physician must often furnish the antitoxin and wait for his compensation, if he gets it at all.

The injection of serum by health officers should be avoided in all cases where it can be done by the family physician. Free dispensaries, hospitals and medical colleges do enough to depreciate the value of a

doctor's work without the health department contributing its services.

Some producers of antitoxin advise its administration without waiting for the bacteriologic diagnosis. This may be justifiable in laryngeal cases, but in not one case out of a hundred will the interests of the patient suffer if a culture can be made in four hours. Antitoxin is a highly organized product of unknown properties requiring the highest skill in its manufacture, and can only be produced by carefully followed rules requiring months of work and involving large expense. The failure of a single step in the long process will affect the product. This remedy is injected directly into the tissues and is absorbed by the blood. The action is so rapid that if unfavorable one patient is beyond hope before any known means can counteract the effects. These facts make it imperative that the utmost consideration should be given the subject of when and how to administer antitoxin. I have taken the serum myself and know its immediate effects are painful. I have also seen most alarming symptoms follow its administration. Hence the indiscriminate injection of antitoxin in cases of angina is dangerous, unjustifiable and unscientific.

Every city has its own problems to solve. In evolving a plan for controlling diphtheria all conditions of municipal life must be considered. Grades of diphtheria differ in New York, Paris, London and Chicago, as the environment of those cities differ. If the mortality of diphtheria in Chicago is lower than that in New York it is only fair to say that it is probably due more to the less crowded condition than to superior equipment.

Our position of health commissioner is a political one with a term of but two years. This is a short time to institute and carry out any elaborate scheme of hygienic reform. But it is long enough to set in motion plans of work whose beneficial effects will not permit them to be dropped by the next administration.

The municipal control of diphtheria then means: 1. The enforcement of those hygienic laws which will increase physiologic resistance and thus remove predisposition to the disease. 2. It must protect children from contagion by competent medical inspection in schools and public places of work. 3. It should furnish physicians convenient means for early bacteriologic diagnosis. 4. It should obtain and furnish the best possible quality of antitoxin.

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DISCUSSION.

Dr. REYNOLDS—It seems to me that the logical result of all this antitoxin and germ study is that every physician who visits families and comes in contact with them should be able to make a diagnosis in from two to four hours. It is the function of the department of health to prevent disease.

Dr. ROOT—This very important subject concerns not only ourselves as specialists, but the general practitioner as well. One point has not been touched upon, and that is the necessity of having these cultures made and the bacteriologic examinations continued after the apparent symptoms have cleared up. The difficulty is that after the case is apparently well the children are allowed to go to school and about the streets while they are perfectly capable of infecting others. In Hartford we insist that every case shall be reported at once to the health board. Test tubes are kept, on ice, in the leading drug stores. When a physician sees a suspicious case he can drive to the nearest drug store, get a test tube, make his culture and have it sent at once to the health board. A record of the case is made and kept, and is inspected by the health inspector, and before the child is allowed to go out it must be demonstrated that there are no more bacilli in the throat. When the throat is apparently well he may still infect others by expectoration, etc.

Dr. VANSANT—I do not think that any such discussion should proceed without a protest against a diagnosis of diphtheria based solely on the presence of the Klebs-Loeffler bacillus. It is not a simple thing to diagnose a case as diphtheria, and we should proceed carefully. A diagnosis based on the presence of this bacillus alone is not necessarily correct. I made a series of cultures from 100 patients last winter, and with the aid of our bacteriologic department examined the secretions in chronic nasal catarrh. I excluded every case that had any clinical signs of diphtheria. One of the first cases I sent was rhinitis. A report came back that typical Klebs-Loeffler bacilli had been found and the case must be isolated at once. The case was a true atrophic rhinitis, but every time I examined I got a beautiful culture of the bacillus. There was no sign of diphtheria whatever. From 25 to 50 per cent. of the cases of chronic nasal catarrh contain the bacillus. I protest against isolating cases simply on the bacteriologic examination. We should also have well-marked clinical signs.

Dr. JURIST—In a town not many miles from here two police surgeons made cultures from each other's throats and sent them to the city bacteriologist. They were promptly quarantined the next day, though there was no sign of sickness. When physicians depend on one point in any diagnosis they fall in error. We have also in laryngology attached too much importance to bacteriologic investigation. I believe that in 95 out of 100 cases the disease can be determined without bacteriologic investigation. Isolate your patient for a day or two and you will often see that a case can appear like diphtheria and not be diphtheria.

Dr. RANDALL—The nasal cases are not so apt to convey infection, and yet I know of many a case that has originated in this way. I know a resident who had such a condition in his nasopharynx, and he was responsible for several cases of diphtheria in the hospital and finally had a plain case of the disease himself. Cases are certainly infectious in that stage and call for recognition. The difference between faucial and nasal cases must be borne in mind.

Dr. JAQUES—The Klebs-Loeffler bacillus may be in many throats without producing diphtheria. Physical resistance is what prevents children from taking diphtheria. About this time of year most children have the bacillus in their throats without producing diphtheria. In winter the conditions are more favorable for its occurrence. Great care is necessary. A person who has the bacillus in his throat may not have diphtheria, but he may come in contact with a child who is susceptible and cause the death of the child. I have known mothers who had this condition of the throat to inoculate their children and cause their death. For the protection of the physician, he should know the origin of every case of angina that comes under his care. He can then put the bacteriologic diagnosis with the clinical symptoms and know what the disease is.

REMARKS UPON THE SURGICAL TREATMENT OF MALIGNANT DISEASE OF THE LARYNX.

Presented to the Section on Laryngology and Otology, at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, Pa., June 1–4, 1897.

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While operations for the cure of malignant diseases of the larynx have generally resulted in shortening rather than lengthening the lives of patients so operated upon, the experience of the past few years in certain parts of the world has been somewhat encouraging. Indications are beginning to appear which suggest that for this class of patients there exists a not entirely unpromising future.

Within the past two years several papers have been published in which the proportion of successful operations has been unusually large, and while the actual number of patients operated upon has been too small to establish any positive conclusions, and the dates of most of the operations have been too recent to admit of a complete study of the cases themselves, there can be no question that the work recorded in them is, on the whole, worthy of careful consideration. The varieties of operation which have lately challenged atten-

tion by reason of the improvements which they have offered may be divided into three groups: 1, thyrotomy, with or without partial laryngectomy; 2, complete laryngectomy by the method adopted in Solis-Cohen's case; 3, complete laryngectomy in cases of extensive laryngeal disease with glandular involvement. Examples of all three are beginning to multiply to such an extent that it will not be long before we shall have a collection of details sufficient to afford a fairly positive knowledge of their real value, together with a fund of technical knowledge relating to the subject which can not fail to be of material aid for future guidance.

A short consideration of these methods may not be without interest. The first variety, while advocated by many surgeons here and abroad, has been studied and practiced in this country chiefly by Prof. Clinton Wagner of New York, and by Mr. H. T. Butlin and Dr. Semon in London. It consists in performing thyrotomy and removing as much of the diseased tissues as may be necessary. Mr. Butlin, in the main agreeing with many of the best surgeons of the day, has advanced the following propositions:

1. Every malignant growth of the larynx of intrinsic origin which can be dealt with should be treated by an operation in the absence of a decided indication to the contrary, and the operation should be performed with the least possible delay.

2. Every tumor of the larynx suspected to be malignant, of intrinsic origin, of limited extent and apparently within reach of free removal, justifies an exploratory thyrotomy in a suitable patient, in the absence of infiltration of the surrounding structures and of affection of the lymphatic glands.

The method of operating pursued by Butlin and Semon has been described in their published writings. It applies distinctly to cases in which the disease is absolutely confined to the interior of the larynx. Preliminary tracheotomy is done with the insertion of the tampon canula and its careful adjustment. The anterior part of the thyroid cartilage is laid bare with scalpel and raspatory, it is opened exactly in the median line, and the two sides of the larynx are held apart, preferably with two strands of strong silk inserted through the anterior parts of the lateral wings of the thyroid. After the latter has been split open, undue violence in holding the halves apart must be strictly avoided. At this stage it will generally be necessary to protect the parts from mucus and saliva by packing the lower part of the pharynx with a large septic sponge secured by a string and passed through the laryngeal wound upward. There are two recommendations upon which Semon lays special stress; 1, the surgeon should be provided with a forehead reflector and a good light, and as has already been suggested by the writer for deep operations in the pharynx, he should if possible have at hand a small two- to four-candle power electric lamp, to be used for the purpose of securing the best possible illumination of the interior of the larynx for the detection of every possible bit of diseased tissue; 2, before he begins the removal of the growth the whole side of the larynx to be operated on should have applied to it a 5 per cent. solution of cocain, for the purpose of contracting the capillaries on that side and preventing parenchymatous bleeding, which otherwise is sure to interfere with and greatly prolong the removal of the growth proper, while at the same time it may allow suspicious portions to remain behind. The importance of the two above mentioned measures is strongly insisted upon. The field of operation having been thus prepared, the diseased soft tissues are thoroughly removed to at least half an inch from the periphery of the growth, and if necessary the underlying cartilage is scraped or even removed, the base being firmly scraped with a sharp spoon. The use of the galvano-cautery will seldom be required. Every source of bleeding having been stopped, the whole interior of the wound is dusted with pulverized iodoform, or with iodoform and boric acid in equal parts, and the tampon canula is immediately removed. The whole of the wound is then covered with cyanid or iodoform gauze.

In cases where the more extensive resection of the thyroid or even extirpation of one-half of the larynx is contemplated, the parts of cartilage to be removed should be freed from their perichondrium and from the surrounding soft parts by means of an elevator. In other respects the operation is the same, only more extensive than mere thyrotomy with removal of soft parts. It is generally not necessary to prophylactically ligate the laryngeal arteries. Where the epiglottis or the aryteno-epiglottidean folds are diseased, the best means of access to them is sub-hyoidean pharyngotomy.

For after-treatment, both Wagner and Butlin immediately remove the tampon canula, and from that time use no tracheal canula whatever, and the wound having been dressed as above described the patient is not propped up in bed, but is placed horizontally on the side corresponding to the half of the larynx operated on with one small pillow under the head. Instead of plugging the wound with gauze as formerly, Mr. Butlin dusts it at least twice daily for the first few days with the antiseptic powder by means of a powder insufflator. The application can be made to the best advantage when the patient is swallowing, as during the act of deglutition the wound in the neck is separated sufficiently to admit the end of the powder-blower, so that the powder may be thrown directly against the raw surfaces, which should be thoroughly covered by it. The external covering of cyanid or iodoform gauze should be removed as often as wet by secretion. Although nutrient enemata may be required for the first few days, the experiment may be tried on the day of the operation or soon thereafter, of allowing the patient to attempt to drink a little water while leaning with the upper part of the body well over the edge of the bed. In case of any impediment to the closure of the larynx during this act, the water will run directly out of the wound and no harm result; should the experiment succeed milk may at once be taken in the same way, and the necessity for rectal feeding avoided. The external wound gradually closes by granulations, which may have to be stimulated by applications of nitrate of silver.

Turning now to the method of operation classified as number two, we find that a distinct advance has been made in the treatment of cases requiring complete extirpation. It was first proposed and practiced by Prof. J. Solis-Cohen of Philadelphia. The patient upon whom he originally employed it in 1892, is still living and well. In this operation, as in several similar to it, the larynx was completely removed and the severed end of the trachea brought to the external edges of the cervical incision and there retained, communication between the lungs and the pharynx being thus totally and absolutely cut off. The great advantages of this plan over the usual methods are:

1. The danger to life from inspiration pneumonia is greatly lessened, owing to the shutting off of the mouth from the trachea.

2. Swallowing is accomplished with great ease and as freely as under ordinary circumstances.

3. In at least three cases thus operated upon, the power of phonation has been acquired with a voice fully as satisfactory as that produced by any artificial appliance, and without either the inconvenience and discomfort of an artificial larynx or the danger to the adjacent parts from the irritation of its presence. The mechanism by which phonation is accomplished in these extraordinary cases has not been explained. Cohen's patient is able to make his voice distinctly heard from one end to the other of the great hall of the New York Academy of Medicine.

4. The comfort of the patient is greatly increased, and the disfigurement of the other operation and the wearing of the artificial larynx largely done away with. It is entirely probable that under certain conditions, this method will prove to be the most satisfactory for complete laryngectomy of any yet proposed, and it is to be hoped that it may be given a sufficient trial to prove whether or not the cases already reported have been but the result of a happy accident rather than the first illustrations of a definite rule.

As to the third variety of operation it has often been insisted that in order to insure success, malignant disease of the larynx must be treated as early in its history as possible, and at least before involvement of the neighboring glands has taken place. Unfortunately in the history of the past early operation has not always saved life, but on the other hand several eminently successful cases have been in patients who suffered from a tolerably extensive condition of disease. The management of cases of extensive laryngeal disease, therefore, becomes a matter not only of great importance but of lively interest, especially when it is remembered that perhaps a majority of patients are not seen by the specialist or surgeon until the disease has made considerable progress, and the time most favorable for operation has passed.

Several years ago operations were attempted upon such patients with only here and there an exception to the inevitably and immediately bad result. Subsequently they were generally left to their fate. Of late, under the influence of improved methods and increasing knowledge, a hope, a small hope indeed, but worthy of all encouragement, has been aroused by the excellent work of several men. Prominent among these may be mentioned Mr. Watson Cheyne of King's College Hospital, London, whose efforts in this direction are now attracting much attention, and who in his admirable Lettsonian Lectures (*Lancet*, February 15 and 22 and March 14, 1896,) upon "The Objects and Limits of Operations for Cancer," delivered before the Medical Society of London last February, says: "As compared with cancer in the breast, the disease in the throat is in some ways more favorable for cure; in other ways less so. Primary disease of the breast is by far the more favorable of the two, for there it is fully exposed to view, and there is plenty of room for its free removal without endangering important structures. In the mouth and throat, on the other hand, the disease is close to if not involving many important parts, the space in which one has to work is very limited, any considerable margin of healthy tissue can not be obtained, and the early spread of the cancer to muscle, tends to distribute it over a considerable area. In the throat, moreover, the disease is much less favorable for operation, because the septic elements comes into play, and thus instead of having to do with an operation in the breast where the mortality is practically nil, we have to face very considerable risk of death from septic disease. On the other hand, cancer of the mouth and throat is more favorable as regards the glandular deposits, for in the neck we have an extensive glandular area exposed to view which can be much more thoroughly dealt with than in the case of the breast. It is true that many surgeons look on the glandular trouble as a most serious part of the disease. With this I do not agree. In another respect cancer in the throat is more favorable than in the breast, namely, that in it metastatic deposits are infrequent."

As to the neighboring lymphatics, Cheyne believes that they should be removed as in cancer of the breast It is seldom that no enlarged lymphatic glands can be felt in these cases, and usually they are of considerable size. Whether they can be felt or not, the lymphatic area should be cleaned out. Unless the lymphatic enlargement is very extensive or adherent to a variety of structures in the neck, and not merely to the sheaths of the vessels the operation will be more thoroughly done and the patient will have a better chance of recovery and cure if enlarged glands are already present.

With regard to preliminary tracheotomy, Cheyne, agreeing with many other excellent authorities, does not believe in the insertion of the tube several days prior to the performance of the main operation. Personally I do not think his ground upon this question well taken, the objection being that in three or four days after the insertion of the tube there will be a collection of septic matter around it which may get into the trachea after the performance of the main operation. Such an accident could probably be avoided by extending the time between the two operations to ten days or more. It is desirable, however, that this question, namely, when preliminary tracheotomy should be performed, should receive more careful attention than has hitherto been accorded it, as it is without doubt an important factor in the patient's welfare.

These three varieties of operation just described may be said to finally represent the most recent additions to our present resources for the surgical relief of malignant disease of the larynx.

Turning now to the statistics of these and similar operations performed upon the larynx, we find according to a recent valuable article published by Schmiegelow of Copenhagen, in *Gouguenheim's Annales* for April, 1897, that during the past six years the mortality resulting from extirpation of the larynx has been materially diminished. Thus up to 1880, according to Holmer, the mortality was 42 per cent. Tauber reports a rate of 60 per cent., following total extirpation of the larynx between 1866 and 1890. Between 1880 and 1888 Schier found that the rate had fallen to 34 per cent. Since 1890, however, the reports are much more hopeful, for the same observer finds that the rate during that period has been reduced to 22 per cent. Schmiegelow, carrying the reports up to the present time, finds that the percentage of cures since 1890 has been 13.5 per cent., and of immediate mortality 18.7 per cent.

I earnestly wish that these flattering statements as to the improved statistics of this class of operations could be accepted as accurate and reliable. Undoubt-

edly in the cases of certain individual operators, who like Hahn, Butlin, Schmiegelow and some others, have faithfully and without reserve reported all of their cases good and bad alike, we are able to gain from their reports deductions of genuine value. It is both discreditable and unfortunate, however, that many operators have failed to publish their unsuccessful cases and have only reported such as have resulted well. This, I am sorry to say, has been particularly the case in our own country. Two years ago, the writer in the course of preparing an article upon this subject, wrote to the principal surgeons of the United States asking for a statement of their results. The answers were so incomplete and unsatisfactory that he abandoned the attempt. One surgeon who had operated four times with three speedy deaths, entirely omitted to mention his failures, while the successful case was reported in full.

Time and again the operation has been attempted under unfavorable conditions and by unskilled but venturesome men, whose rashness has quickly robbed the patient of what little hope belonged to him, and who having nothing creditable to report, have avoided publicity. If the whole story were to be told it is probable that the statistics in this country would be discouragingly bad.

It can not be insisted upon too urgently that carcinomatous cases requiring laryngectomy are desperate at the best, both as to immediate and ultimate results, and that with our present limited knowledge of the subject, no amount of caution, however great, will avail in preventing a high percentage of failures. With the sources of danger so numerous, constant and subtle, it is impossible that too great foresight or experience be brought to bear against them, or that the urgency of this demand be over-stated. Doubtless the best preparation for the work on the part of the surgeon would be a thorough knowledge of operations upon the tongue, neck and lower jaw in general. In the after-care of the patient also it is not by any means enough that the watchers should be ordinarily qualified in the care of severe surgical cases. Nothing short of special fitness in the department of this particular class of cases will yield the best results.

Next, such accidents as the entrance of septic or foreign matters into the air passages must be carefully guarded against. The use of the esophageal tube when entrusted to inexperienced hands has often been the cause of disaster. This part of the management as proved by the records of failure, requires most careful handling. Another dangerous and preventable accident is the poisoning of the patient by the antiseptic dressings, among which iodoform has been the principal offender. The substitution for it of a mixture of equal parts of powdered iodoform and boric acid, or of the compound tincture of benzoin has been attended with success.

In reviewing the recent progress in the treatment of malignant disease of the larynx, and in studying the manner in which these advances have been made, it must be apparent that nearly all have been the result of long and close study of the subject by accomplished surgeons, whose opportunities for clinical study have been unusually great. The time has long passed when an unsuccessful attempt at laryngectomy by one not fitted for the work can bring anything but reproach to the operator and discredit to the operation.

I am strongly of the opinion that, for a time at least, both the welfare of the patients operated upon and the interests of science demand that the indiscriminate performance of capital operations upon the larynx should cease. In most great centers there are individual surgeons or groups of operators who are especially well fitted both by personal qualifications and hospital facilities for the successful performance of this work, as has been proved in many cases by the records which they have already made. Let such men surround themselves with the proper assistants, let them systematize their efforts and use all the diligence in the perfection of appliances and methods and in the study of the cases under them, and keep careful and accurate record of everything pertaining to the history of their work. Then resign to them temporarily the care of as many cases of laryngeal cancer as possible. When a sufficient amount of material has been collected, we shall learn whether the radical extirpation of laryngeal epithelioma is unjustifiable, or whether, as we have the best reasons for hoping, it is likely to establish for us a reliable means of cure.

Finally, with the best results obtainable, it should not be forgotten that in this disease surgery is, and probably always will be, a forlorn hope, and that until we have discovered some better method of dealing with it, the results of operation, even under the best conditions, will fall far short of a perfect means of cure.

DISCUSSION.

Dr. COHEN—In my opinion much of the success of the case depends upon the attention given to the patient after operation. Operation is of course very important, but the best operation will fail if the patient does not receive the proper after-treatment. I am certain that a number of the cases I have seen could have been saved with proper care. The patient requires not only to have the surgeon within immediate call, but also the laryngologist. The great mistake is made when the laryngologist abandons the case to the surgeon, for the surgeon is not always familiar with the emergencies that may occur in such cases. Even if the laryngologist is not able to perform the operation, he should be in constant attendance with the surgeon until the patient is out of danger.

Dr. MACKENZIE—The surgical treatment of laryngeal cancer has resulted in failure in the past because the methods employed have not been sufficiently radical. Thyrotomy, partial and complete extirpation of the larynx have fallen far short of success simply because they have not completely removed the disease. There is but one rational treatment for cancer of the larynx. Early total extirpation of the organ together with its neighboring lymphatics and glands whether the latter be apparently diseased or not, is the only possible safeguard against local recurrence and metastasis. By no other method can we give the patient a reasonable assurance of a permanent lease of life.

The time will surely come when the conscientious surgeon will consider that he has fallen far short of his duty to his patient and himself if he does not in the treatment of cancer of the larynx, no matter how circumscribed the growth may be, remove not only the entire organ, but also the neighboring lymphatic area. Then and not until then will we have more favorable statistics and prognosis in cancer of the larynx. Then, and not until then, will the medical historian chronicle a *real* advance in the management of this terrible disease.

Dr. MYLES—I think the high death-rate is because the general surgeon does not know enough about the after-treatment of these cases. We have our laws as to laryngeal trouble and things germane thereto, but we should have the assistance of the general surgeon and let him do the cutting. In a case which Dr. Mackenzie and Dr. Halsted had, after the larynx was extirpated there was no recurrence at all. They decided to take out the whole larynx and found by the microscope, cancer on the opposite side which had not been evident before the operation.

Itching of Urticaria.—Distilled water 450 parts; cherry-laurel water, 50 parts; chloral hydrate, 5 parts; cocain hydrochlorate, 3 parts.—*La Provence Médicale.*

SOME DEFECTS OF SPEECH; THEIR CAUSE AND TREATMENT, WITH EXHIBITION OF CASES.

Presented to the Section on Laryngology and Otology, at the Forty-eighth Annual Meeting of the American Medical Association, at Philadelphia, Pa., June 1-4, 1897.

BY G. HUDSON MAKUEN, M.D.

PROFESSOR OF DEFECTS OF SPEECH IN THE PHILADELPHIA POLYCLINIC AND LARYNGOLOGIST TO ST. MARY'S HOSPITAL.

PHILADELPHIA, PA.

The first case is one of defective speech due to a cleft palate. The boy, J. C., was born in Ireland eleven years ago with a cleft running back through the lip, alveolar arch, hard palate and soft palate. The hare-lip was beautifully closed by Dr. Hamilton of Dublin, when the child was 7 months old. He always had great difficulty in swallowing and his speech was entirely unintelligible. When he was 9 years of age Dr. John B. Roberts of this city did a very successful operation for closing the palatal cleft. This made the boy comfortable in every way, but it did not improve his speech to any appreciable extent. Even had he been given a perfect palate and perfect lips his speech would still have been defective, because for nine years the other organs of speech had been trying to adapt themselves to very imperfect conditions, and in so doing had developed abnormally and formed certain faulty habits of action. The cleft palate operation therefore should be done as early in life as possible, before these habits of faulty speech are formed. Even then we do not obtain good speech because under the most favorable circumstances and with the most skilful operation we do not secure a palate of suitable dimensions and normal functional activity. Nature as a rule has failed to give us sufficient tissue here and some of it must be sacrificed in our efforts to unite the parts, and the muscular control of the palate after the operation is always very deficient.

The velum palati, that portion of the palate which is so essential to good speech, is too short. There is not enough material to make a veil sufficient to close what I have called the palato-pharyngeal chink, and the result is that the sounding breath which should be directed through the oral cavity in the articulation of many sounds, is allowed to pass up through the nasal cavities instead, and this deflection makes the utterance of certain consonant sounds quite impossible.

Training will improve this condition to some extent but not very much unless at the same time we are able to increase the effectiveness of the soft palate and uvula. The palate is too short and tense. It is stretched across midway between the tongue and pharyngeal wall and held down by the palato-glossi muscles, which are also too short. In addition to this the pillars of the palate are usually bound together by old tonsillar adhesions, which assist in preventing the normal action of the palate. The uvula is either absent altogether or very deficient in size and useless so far as its natural functions are concerned. The indications here have been to secure greater freedom in the movements of the palate and for this purpose I have separated the adhesions between the pillars and divided some of the fibers of the palato-glossi muscles, and then by frequent stretching of the parts and massage with the finger placed in the mouth, I have been able to give him a more useful palate and his speech is already quite intelligible, although we have only nicely begun his training and these other methods for the improvement of speech. My next step will probably be to divide some of the fibers of the palato-pharyngei muscles. His speech is far better now, I think, than that which we could have secured with an artificial obturator and it is always a pity I think to put an obturator in the mouth of a boy of this age.

The next case is the only one of its kind so far as I know. This young man is 15 years of age, born in this city of American parentage, and is next to the youngest of five children, the other four being strong and healthy, although two of them are said to have had some slight derangement of speech in childhood from which they recovered without special treatment. The family physician informs me that the mother had frequent uterine hemorrhages during the time she was carrying this child, and after delivery both mother and child were very weak and anemic. The child's heart action was feeble and the foramen ovale was late in closing. He was what is known as a blue baby and had occasional spells of what was called suspended breathing. At the age of 1 year he had a severe attack of broncho-pneumonia, from which he recovered slowly, and he was extremely delicate until the age of 7 years, since which time he has been in fairly good health. His spech developed very slowly and imperfectly and he was brought to my clinic about the first of the present year. He could talk glibly, but not a single word was at all intelligible. I asked him his name and address and he said "Tháhti Thóu, púrti thah thâti páhthi," meaning Alfred Lawrence, 3918 Parrish. I asked him to say the days of the week and he said "Túrdi, Tháhdi, Túdi, Thádi, Bódi, Báhdi, Táhdidā."

We found that he had been attending school regularly, where he had easily kept abreast of his mates in his studies and shown himself to be rather above the average in intelligence. This is very unusual. In fact I know of no other case with such a history. Even though the brain be in perfect physical condition and the defective speech be due entirely to imperfections in the peripheral organs, cerebral action is usually very much impaired.

In a case which I reported two years ago the mental growth was checked to such an extent as to actually suggest idiocy, but just as soon as we opened up the avenues for oral expression his mentality increased with most wonderful rapidity.

Usually defective speech is a great hindrance to mental development and this is especially true as the patient gradually merges into adult life. It is then that he begins to feel the need of effective speech, and unless he can exchange with his fellows the products of the mind these products will soon cease to materialize. This boy has gotten along very well up to this point. He is almost ready for the high school, but I believe he had about reached his limit of normal mental development and the next few years would have witnessed a retrograde action. Even now he has a kind of hang-dog expression as if he were sorry that he is living, but that is not so marked as it was four months ago and it would have increased enormously in the next few years, for his defect was beginning to weigh heavily upon his mind.

Now, what was the cause of this defective speech? Peripherally there were no structural irregularities in the organs except some bad incisor teeth and a slight enlargement of the faucial tonsils with some adhesions between the pillars, which I removed, although they could have but little bearing upon the trouble.

There was really nothing in his mental or physical condition to account for his defect and therefore I think we must conclude that the cause probably began in intra-uterine life and existed all through the formative speech period up until about the seventh year. Before birth the blood which should have gone to nourish the fetus passed off in frequent hemorrhages, and for several years after birth the child's own circulatory apparatus was entirely inadequate, and as a result of this faulty circulation and anemic condition all the mental and physical processes were greatly retarded and speech being one of the most complicated of these processes suffered most and improved least with his improvement in general health. A careful study and analysis of the action of the peripheral organs during his attempts at speech revealed the fact that only the simplest movements and combinations of these organs were made. The anterior stop positions alone were used, that is, the one between the lips and the one between the tip of the tongue and the teeth, or what remained of three very bad teeth, in front. The consonant sounds which he used were, of the labials p, b, m, of the linguo-dentals, th as in thou, and of the linguo-palatals t, d, n and occasionally l and r in the middle of a word. The voiced th was his favorite sound for the beginning of words, and the voiceless th (as in thin) he did not use at all, but changed it to p. For instance, he would say "pirty" for thirty.

I will now describe some of our methods of treatment and their results. Our task was not so much to develop the speech center I think, but rather to train the motor track and the various peripheral muscles and organs of speech into right action.

The center for word concepts was intact, as was the motor track supplying the muscles of the arm for writing; for he did his thinking in the words that he uses now and he wrote a good hand and spelled very well indeed.

We began with exercises to develop the various muscles of the lips, the tongue and the palate. He could not even open his mouth properly and it was some days before we could get a satisfactory view of his tongue and palate. In trying to open his mouth the orbicularis oris would close sphincter-like and he could not relax it, and I am convinced that he never knew what it was to smile. Various exercises were given him to correct these faulty muscular actions and he was carefully shown day after day how to make the elementary sounds of the language, where to place the tongue, how to shape the lips, etc., etc., much after the manner that we teach deaf mutes to speak, and we have found that there are no sounds that he can not master, and I may say that he has not mastered, although he needs further practice to acquire greater facility of speech.

In conjunction with this case I present a somewhat similar one, although they differ in some important points. This boy comes from Virginia and is 10 years old. His trouble is simply that of arrested speech development, such as we very commonly meet with in children. His speech not only did not improve but it was actually deteriorating. There is the history of a fall at the age of 7 months, in which he received a severe injury to the nose, although there appear to be no special external evidences of such injury. There is no intra-nasal pressure and there are no oral or pharyngeal lesions of any kind to account for the trouble. He has had measles, whooping cough and malaria of a very severe type, and he had convulsions when teething. His father and mother are second cousins and still living. His grandfathers were first cousins and both died at the age of 45 years. There was consumption in both families and a history of various kinds of nervous affections and backward speech in many of the children. The mother of this child had defective speech and her brother had some form of paralysis and used to stammer at times, and died at the age of 38.

And so this boy springs from a race of defectives, and as is the history of so many of these cases, the tendency toward defective speech seems to be inherited. His defect may be characterized as the mutilation of words with what Mr. S. S. Buckman has called decapitation and decaudation. He cuts off nearly all the initial consonants. For moon he says "oon," for Sunday he says "unday," for cat he says "at." And there is also some decaudation or the cutting off of the final consonant; as for chair he says "a," for three he says "e," for four he says "o."

The treatment of these two cases has been along the lines of physiologic principles. The various organs of speech, viz., the lips, tongue and palate, have been trained to take the proper positions for the articulation of each sound, and as these positions are constantly changing and interchanging, this is no easy task; and yet the results in these cases have been immediate and most satisfactory.

The speech of neither of these boys was at all intelligible and that of the first one did not even resemble or approach the normal, while the speech of the second was mutilated, decapitated and decaudated.

The first boy has been under treatment about four months and the younger boy came to my clinic April 6. The first boy can now read and speak very well and can articulate very clearly any word with which he is at all familiar. The second boy can enunciate perfectly a long list of words which he has learned. These are both dispensary cases and have not received the regular and systematic treatment which they might otherwise have had. I would say further in reference to the treatment of all these cases that careful attention has been given to the proper methods of breathing, and they all breathe alike and in a certain definite manner. This is most important in the treatment of stammering.

NOTE.—In addition to the above three cases, Dr. Makuen exhibited three cases of stammering, in two of which the defect had been entirely eradicated and the third was in process of treatment. Methods of breathing, etc., were freely demonstrated.

DISCUSSION.

Dr. VANSANT—It is perhaps proper to exclude the psychic causes of speech and consider for a moment the effect on speech of the various abnormalities of the throat and nose. The recognition of such local conditions and their removal in early life seems very important. We are familiar with the thick speech in cases of nasal obstruction, and I have noticed a want of co-ordination between thought and speech in patients suffering from these local lesions. A man with hypertrophy and enlarged glands about the throat may think one word and speak another. That being the case, a certain defect of speech naturally arises. He becomes embarrassed, seeks for the word he is thinking of, and stammers. We know how young children, who want some object whose name is unfamiliar, will stammer before bringing out the word. Elocution is simply for the purpose of voice culture. I think it is a mistake to send a stammerer to an elocutionist before a careful examination of the nose and throat has been made. Remove the abnormal conditions and afterward employ proper teaching to improve the speech. Many methods are pursued by teachers for the cure of stammering. Dr. Makuen's brings under

more perfect control the various muscles used in the production of voice.

Dr. SCHEPPEGRELL—I will ask Dr. Makuen whether he ever heard of the method of a man who traveled over the country a few years ago and made a great deal of money. After insuring his fee, he gave only the direction, "lower your voice." For instance, if the patient used his throat register, he was told to use his chest register. The result really seemed to be to stop the stammering, but I do not know anything as to the permanent result of the treatment.

Dr. DELAVAN—In no subject has there been so much quackery and deception as in the cure of stammering. For a man to take up the matter in a scientific, broad-minded and humane way, as Dr. Makuen has done, is quite rare. The mass of literature on the subject does not give a single practical idea. Attention should be given first to the proper management of the breath and the organs of articulation, the proper development of the physical state of the patient, and the careful study of the throat and the removal of any local pathologic defects, adenoid tissue, etc.

Dr. RICHARDS—In the manufacturing community in which I live I find many speech defects among the children. The mothers work in the mills too long previous to the birth of the children and the children themselves are put into the mills very young. These defects are often associated with deficient intelligence, but I have one patient who aside from this trouble is a fairly bright child. The boy can not protrude his tongue and can pronounce no word except his own name, "Elmer," which he can speak intelligibly. At the Massachusetts General Hospital the trouble was regarded as central in origin. There is certainly some hypoglossal paralysis. I would like to know what Dr. Makuen would suggest in a case of this kind.

Dr. COHEN—In the training of the muscles of the palate the great difficulty is that the soft palate can not occlude the pharynx, and thus it is very rare to see much improvement in speech after operation. For this reason many advisers prefer some artificial appliance. If you ask a patient to choose between an imperfect throat and imperfect speech, he will usually want his speech restored at almost any cost. It is a very great achievement to get as good results as shown in the first case. The great difficulty in operation is that we have to shorten an already short palate. In 1874 (see Transactions AMERICAN MEDICAL ASSOCIATION, 1874) I devised an operation for cleft palate, in a girl of 15. I simply split the edges on each side and spread them out, uniting the two halves. This is the only case where I have seen good speech after operation. I have never performed an operation for cleft palate since, but have invariably advised obturators, and with excellent results. A surgeon once brought me a case on which he had operated for cleft palate, with good results, and he was about to take away the enlarged tonsils. I advised against this procedure, because these tonsils occluded the pharynx and aided speech and their removal would have reproduced the imperfections in speech.

Dr. WOOLEN—I would ask whether there is a method of securing adhesion of the two sides of the uvula. In a case I have, strong adhesions of the soft palate were secured, but a bifid uvula remained. Speech has been wonderfully improved, which I think is largely due to the elocutionist to whom I sent the patient after operation, but there are still certain defects in her speech.

Dr. COHEN—You can get union by putting a drop of nitric acid in the apex of the cleft, and when that spot has united, putting on another drop just below it, and so on.

Dr. MAKUEN—The average elocutionist does not know what to do with these cases. He has no idea of the proper method of breathing, which is the first thing that has to be taught. I have some assistants in my clinic who understand this subject very well. My elocution teacher in school taught me a method which was entirely wrong. Elocutionists are mainly skilled in teaching the refinements of speech to those who can already speak fairly well. The defective must be shown how to place and use the tongue, lips and palate and the respiratory and buccal muscles, and must be drilled into it. In regard to the various tricks for the cure of stammering, I am sure that I have heard of 500 of them. Few of those who treat stammering will tell you the method used. Dr. Richards mentioned a case of his, a boy who can not protrude his tongue properly. The case I have shown you from Wilmington was one of that kind. The cutting of the anterior fibers of the genio-hyo-glossus muscle relieved him. The operation seems to loosen up the tongue so that the patient can be taught to speak. With reference to the mental condition in these cases, Dr. Daniel G. Brinton says that the genio-hyo-glossus muscle is supposed to have some special connection with the brain, and those who have defective tongue muscles are likely to have a defective brain. I had a case which had been given up as idiotic. I did this operation and the boy is now one of the brightest in his school. It is better to operate under general anesthesia. In stammerers quite a large percentage have bifid uvula.

CHRONIC STENOSIS OF THE LARYNX WITH FIVE ILLUSTRATIVE CASES.

Presented to the Section on Laryngology and Otology, at the Forty-eighth Annual Meeting of the American Medical Association held at Philadelphia, Pa., June 1-4, 1897.

BY WILLIAM S. JONES, M.D.

CLINICAL PROFESSOR OF LARYNGOLOGY IN THE JEFFERSON MEDICAL COLLEGE HOSPITAL.

CAMDEN, N. J.

I reported a case of prolapse of the laryngeal ventricle in the *Medical News*, Feb. 2, 1895, which presented at intervals marked symptoms of stenosis, the dyspnea at such times being very severe. Since that time, a number of cases of chronic stenosis, due to different causes, have come under my care, and I hope that a short history of some of these may prove both interesting and instructive.

Any cause acting either from within or from without which lessens the lumen of the larynx, will produce the symptoms of stricture, and so long as the cause is active there will be actual constriction. The condition may be acute or chronic, according to the length of time the process has been present and active, but the ultimate symptoms of the two varieties are the same, and the gravity of the symptoms is always dependent upon the severity of the lesion and the extent to which function is interfered with.

The symptomatology is characteristic. Dyspnea is always the most urgent symptom but there may also be present dysphonia, dysphagia, pain, cyanosis from improper aeration of the blood, forced respiration bringing into action the accessory respiratory muscles, anxiety of countenance, engorgement of the venous system and increased breath-sounds in the larynx. In the chronic cases, probably the most frequent initial symptom is dysphonia or hoarseness, which is sooner or later followed by the other characteristic signs.

Case 1.—R. S., aged 35 years, while attending a ball game three years ago, cheered very loudly the success of his favorites. He at once experienced a hoarseness which, however, lasted but a few minutes, and no further attention was given the condition. Two weeks later, hoarseness again developed and gradually increased in severity. After this condition had progressed several weeks, he began to have interference with the breathing which was at times very marked. Four months after the first onset I saw him and found a large mass, of light red color, situated just above the left vocal band and resting upon it. The history of the violent straining of the larynx at the ball game, the immediate hoarseness, probably due to a local congestion, the gradual onset of dysphonia and dyspnea were, in part, characteristic of a prolapsed ventricle, and the appearance of the mass confirmed the diagnosis.

We would state that the diagnosis is by no means easy, and but a very few cases have been reported. The color and smooth surface excluded angioma and papilloma, and the sessile attachment was against myxoma. Its position, shape, color and the absence of surrounding inflammation or infiltration excluded a malignant or tuberculous lesion.

Replacement of the prolapse was performed several times but it returned as soon as pressure was removed, so I resorted to the galvano-cautery to accomplish complete removal. The knife used had a shield to protect the ventricular band. At each visit several applications were made with the knife at a dull-red heat, and after the application of a 20 per cent. solution of

cocain. The parts healed nicely after complete removal was effected and there are now no appreciable symptoms indicative of any trouble having existed in his larynx. The parts are normal in appearance.

While this case might not be considered one of true stenosis because of the absence of new growth or constricting tissue, it seems to be proper to classify it as such because of the presence of the characteristic symptoms of that condition.

Case 2.—Mr. H. H. A., aged 52 years. The patient was first seen in September, 1896, and the following facts were elicited: The family history and the patient's early record are very good, there being no tuberculous or other constitutional disease present. He has always had good health, the only sickness having been an indefinite venereal trouble thirty years ago from which, however, he quickly recovered. During all these years, he has been engaged in hard labor and exposed to all kinds of weather. He refers the beginning of his present trouble to a bad cold contracted in August, 1895. Dyspnea began in September, 1896, and grew steadily worse until October 12. I first saw him early in September. At that time he had slight hoarseness, and examination showed a small mass, the color of the normal larynx, beneath the left vocal cord. He was placed upon specific treatment tentatively. He grew steadily worse. Marked dyspnea developed and almost complete aphonia, and all the usual symptoms of advanced stenosis. October 12, examination of the larynx showed marked thickening of the left ventricular band and bulging of the left cord, caused apparently by a swelling back of it. The swelling was so great that breathing was almost impossible. The right side was normal. Tracheotomy was performed at once.

The operation was done under eucain anesthesia and the third, fourth and fifth rings cut. Three days after the operation he contracted an acute bronchitis, which however subsided in a few weeks and he left the hospital at the end of a month. One month later he began to breathe through the mouth, also to speak, and in two months his voice was perfectly normal and his breathing free. He still wears his tube but keeps it plugged all the time.

The cause of the stenosis in this case was obscure. There was no ulceration and no pulmonary involvement, which, together with his recovery without medication, exclude tubercular laryngitis, and syphilis was excluded by the week's trial treatment. The probable cause was a localized chondritis which subsided after the irritation by breathing, coughing and talking was removed. This also seems probable from the fact that at present the larynx is normal in every respect.

Case 3.—W. W., aged 42 years. His family history is negative excepting that one brother died at the age of 21 of acute miliary tuberculosis. His personal history reveals that he had three chancroids (so-called) in 1872, which were about three months in healing. He, however, never saw any secondary symptoms of syphilis, but as he is colored they may have been present and unnoticed. In 1891, he was kicked by a horse in the right side of the face. The malar and superior maxillary bones were fractured, and a portion of the latter was removed by the surgeon in attendance. About three weeks after this injury, according to his statement, a sore throat developed and has continued more or less ever since. In 1893, an abscess formed in the left side of his neck and was opened. This probably came from broken down cervical glands, as a number of them in that region are still enlarged. About the middle of July, 1896, he began to have dyspnea and difficulty in swallowing solid foods, with occasional attacks of vomiting. These symptoms gradually increased until the middle of October when I saw him. For a week previous to this time dyspnea was very marked, and he had some pain in both tonsillar regions.

October 25, I performed tracheotomy under eucain anesthesia. He made a slow recovery from the operation, having much inflammatory reaction about the wound. He was given 1.3 grams of potassium iodid three times a day immediately after the operation, and this has been kept up until the present time. The condition of the larynx remained unchanged for four months in spite of the administration of the iodid, but then the obstruction began to disappear and at present (May 1) his larynx is almost normal and his voice is completely restored.

This case was undoubtedly one of syphilis of the larynx and the favorable result is due in part to the early operation, removing a fertile source of irritation by turning the current of air aside and preventing coughing, and in part to the steady use of the iodid before the new tissue was thoroughly organized, as were organization complete, a contracting stricture would undoubtedly have resulted.

Case 4.—P. B., aged 53 years. His family history was very good, also his personal history, he having had no sickness except the grip three years ago. His present trouble began about Sept. 1, 1896, with slight dyspnea which gradually increased, but he continued his work as a laborer until October 8. As his difficulty of breathing became more severe he developed a cough, but had no pain or difficulty in swallowing. He lost flesh rapidly during this time. He first came to the clinic October 27 and an examination then revealed a growth involving the right side of the larynx and pushing the vocal band to and beyond the middle line. The diagnosis of carcinoma was made and immediate tracheotomy advised, with a probable resort to laryngectomy later. The first operation was done the next day under eucain anesthesia. He recovered quickly from the operation but continued to lose flesh. The laryngeal swelling subsided somewhat after the operation but the growth increased steadily in size. He refused laryngectomy and went to his home in a neighboring city, where he is still living, but in the last stages of malignant disease.

Case 5.—W. C., aged 30 years, a laborer. Nov. 12, 1896, in a fit of despondency, he attempted suicide by making a large cut in his throat with a penknife. He penetrated the trachea about the second or third ring, twisted the blade about and cut up and down for an inch or more. He was taken to a hospital, where the wound was dressed but not closed, nor was there a tube inserted. One week later, it was noticed that he could not breathe through the mouth when the wound was closed by pressure. It was deemed necessary to introduce a tracheotomy tube, an anesthetic was given him, a tube inserted and the wound stitched around it. Two weeks later, the surgeon attempted to pass a tube through the trachea and larynx from the tracheal wound but did not succeed, the part being shut off. He was then sent home to allow the wound to heal before further operative interference was instituted. Nothing further, however, was done and he was sent to me. The condition of his larynx at present is as follows: The right side is drawn slightly downward, the right vocal band is in the median line and immovable, being fixed by scar tissue beneath it; the left side is normal in situation, the cord is freely movable and can be brought to the middle line perfectly. The entire left side is free for three-fourths of an inch below the vocal band, while the right side has a band of cicatricial tissue just below the cord, which extends downward for three-fourths of an inch and then spreads out to the other sides, completely occluding the trachea. The surface of this membrane is smooth and the lowest point is near the center. From below, the trachea is entirely closed above the tube and the cicatrix is about one-half an inch in thickness.

I have made no attempt at opening the trachea but think it can be done comparatively easily from above. The method of procedure will be to make an incision through the scar tissue with a long knife and enlarge this opening by graduated bougies until the entire lumen is established, and then keep it open by a tube attached to the one now in the tracheal wound until the surrounding parts are healed. He might even always wear an intratracheal tube, as it is too low to interfere with his voice, yet will insure an open passage for air.

201 Broadway.

SOCIETY PROCEEDINGS.

New York Academy of Medicine—Section in Orthopedic Surgery.

Meeting of December 17, 1897.

Dr. A. M. PHELPS read a paper entitled:

A CONSIDERATION OF SOME OF THE PATHOLOGIC AND MECHANICAL PROBLEMS OF HIP DISEASE.

He presented the view that nature attempted to repair the lesion producing hip disease by inflammatory action which was a normal process of repair until the inoculation of germ life which marked the beginning of disease in the area of inflammation. The absence of inoculation gave rise to the ephem-

eral cases of hip disease which rapidly recovered without deformity or disabilty, but inoculation gave rise to the ordinary type of the disease. If the phagocytes were weakened by the strumous condition of the patient, they failed to destroy the germs. If, however, germ life was destroyed, repair went on and the parts were restored to their normal condition. Cavities and foci produced in the course of hip disease by the slow growth of the bacilli of tuberculosis might be inoculated by the rapidly growing pyogenic cocci when a hot and possibly painful abscess appeared and called for the knife and drainage. The adduction, flexion and inward rotation attending the third stage found a mechanical explanation in the fact that when the limb passed twenty-five degrees of flexion the adductors became internal rotators, the external rotators became abductors and the tensor vaginæ femoris became a powerful inward rotator. In the application of mechanical treatment it should be remembered that the powerful groups of muscles acting upon the thigh did not act on an axis with the shaft but nearly on a line parallel with the axis of the neck of the femur. Lateral traction, therefore, should be made in the line of the axis of the femoral neck and not of the shaft.

Dr. G. R. ELLIOTT said that in hip disease we had a depraved process. The whole system was at a low ebb that tended to favor the development of the disease. He thought that this condition of inactivity required the use of some form of apparatus which did not, as all the instruments now in use did, subject every part of the child's body to great expense for the sake of the hip. The ideal splint of the future would not lock up so much of the body by apparatus but would fix only the diseased joint.

Dr. R. H. SAYRE advocated the use of traction to fix the joint, give it physiologic rest and relieve the pressure to which the diseased bone was subjected. He thought that it was difficult to apply lateral traction by a splint, but in bed, lateral traction was easily applied and added to the patient's comfort. In children, however, in whom the neck was nearer in line with the shaft of the femur than in the adult, he believed that longitudinal traction was sufficient. He thought it well to apply massage to overcome the muscular atrophy of disease, but it took a great deal of care to limit the application to the sound part and not interfere with the inflamed joint.

Dr. T. H. MANLEY held that all pus accumulations about a joint should be evacuated early and thoroughly. He asked Dr. Phelps's opinion of the intra-articular injection of solutions of iodoform.

Dr. PHELPS said that filling a joint with an insoluble compound did more harm than good. If he found a joint in which there was fluid, he evacuated it.

Dr. A. B. JUDSON said that the destruction of the head and acetabulum was often cited as an evidence of the bad effects of muscular contraction and of the necessity of making traction. He thought that this destruction was rather an evidence of the bad effects of the pressure made by the weight of the body, as patients with hip disease, if unmolested, were in all except the most advanced stages on their feet as much as well children. He believed that traction was the best method of promoting fixation and in painful stages it was indispensible, but that removing the weight of the body from the joint was also an indispensible part of the treatment and useful through far longer periods than traction.

Dr. T. H. MYERS had made a careful study of the ephemeral cases and believed that the lesion, of whatever nature it might be, was in the bone itself. He would make a distinction between these cases and rheumatic, gonorrheal or other affections of the joint cavity and ligaments. He could not recall any acute case of hip disease which had not been relieved by longitudinal traction alone.

Dr. R. WHITMAN said that the breaking down of bone appeared to be the effect of a destructive process, aggravated by the friction of the diseased surfaces upon one another, by the weight and strain of use in the attitudes of deformity and by the muscular spasm which forced the diseased parts together. The intensity of the spasm was in inverse proportion to the fixation and rest that could be assured. When the patient was recumbent the most important means of fixing the joint was traction. The ambulatory brace should remove the weight of the body from the weakened part, but it was so ineffective in fixation that its use should be combined with splinting of the joint. He had always insisted that the hip should be slightly abducted.

Dr. PHELPS said that abduction should be avoided. It was one of the difficult conditions to correct in the first and second stages.

Dr. JUDSON said that in recovery with anchylosis abduction was desirable. It gave a factitious length to a limb which was probably really shortened, and saved the use of a high sole or reduced its height.

Dr. SAYRE thought that the limb should be in as nearly normal position as possible, neither abducted nor adducted.

Dr. H. L. TAYLOR thought that about five degrees of abduction would compensate for some of the shortening and make the limb more useful.

Dr. PHELPS said that anchylosis was due to the severity of the inflammation, the character of the disease, the destruction of bone and contraction of cicatricial tissue about the joint. It was prevented by the use of an apparatus which seized the pelvis and fixed the joint from the commencement of the treatment until the patient was cured. The joint being thus held at perfect rest, nature went on in her effort to cure, uninterrupted by the trauma of motion. The splint was not used to overcome deformity, but merely to hold the limb in a perfectly straight position after the deformity was corrected by bed treatment.

Meeting of January 21, 1898.

CONGENITAL ABSENCE OF PECTORAL MUSCLE.

Dr. TAYLOR presented a patient who had been brought to him because of asymmetry of the upper part of the chest in front. The patient was a boy six weeks old. There was normal fulness of the right side, while the left side where the pectoralis major should have been was much depressed. This was the fifth child of the mother, the others being healthy. Labor was normal. The child moved both arms equally well.

Dr. WHITMAN presented a boy 16 years old with a similar condition. When five years old he had pigeon-breast. On account of round shoulders and projecting scapulæ he had been brought to Dr. Whitman, who had found a defect of the right pectoralis major due, apparently, to congenital malformation from which the boy had suffered but little inconvenience although he was left-handed. The muscular deficiency had never been recognized. The clavicular part of the muscle was normal, but the sternal part was represented simply by a fold of fibrous tissue which could be brought into prominence by certain motions of the arm. He had considered the possibility of poliomyelitis as a cause, but after seeing Dr. Taylor's patient, he thought the trouble was due to congenital malformation. He had seen a somewhat similar case in which absence of the right pectoral muscle had been accompanied by defective ribs, slight lateral curvature and webbed fingers.

Dr. MYERS had the day before seen a patient affected with wry-neck from general shortening of the muscles of the right side. There was also on both sides a very marked depression between the inner border of the deltoid and outer border of the pectoralis major, apparently due to absence or defect of the clavicular part of the large pectoral muscle.

Dr. SAYRE said that in a boy who had been brought to him for pigeon-breast he had found the scapulæ very prominent and an almost complete absence of the right pectoralis major. The disability was not serious. He had referred the condition to an attack of poliomyelitis at the age of three, of which he had obtained what seemed to be a creditable history. The case might have been, however, an instance of congenital defect of the muscle.

Dr. ELLIOTT did not think that it was possible to exclude poliomyelitis in either of the patients shown. He had seen patients in whom a muscular defect in other parts of the body, at first thought to be congenital, had been found to be the result of poliomyelitis. He thought cases were not uncommon in which the effects of the disease were limited to a single muscle or even to a part of a muscle.

Dr. TAYLOR said that in the case of the baby it would be necessary to assume that the disease had been *in utero* as the condition of the muscle had been present from birth and the atrophy was so complete that it suggested the absence of development rather than paralysis. If there had been paralysis it must have been at the very beginning of the development of the muscle since paralyzed muscles retained their fulness for a considerable time.

DEFORMITIES FOLLOWING TYPHOID FEVER.

Dr. W. R. TOWNSEND presented a male 19 years of age who had complained of spinal pain and stiffness since recovery from typhoid fever last February. The vertebral column was very rigid with a slight curve toward the right in the lower dorsal region and a posterior curve of the lower dorsal and the entire lumbar rigion. There were also a number of swellings distinctly connected with the bone in different parts of the body resembling cold abscesses of tubercular subjects and syphilitic nodes. They were not very soft and there was no fluctuation. The general health had been poor since the fever. Parsons of Johns Hopkins University, had described such swellings as

appearing several months after typhoid fever. He had found in them the typhoid bacillus, the staphylococcus and the bacillus coli communis and had advocated total extirpation of these foci.

Dr. SAYRE thought the boy might be suffering from hereditary syphilis which had first made its appearance when his health was broken down by the attack of typhoid fever. If local treatment was necessary the foci might be incised and scraped and packed from the bottom. As the epiphysis is involved in several instances enucleation would endanger the usefulness of the joints. He called attention to the girdle-mark, which is a pathognomonic sign of disease of the spine and advised treatment as of an ordinary case of tuberculous disease of the spine.

Dr. V. P. GIBNEY advised that a trial of antisyphilitic treatment be followed by general constitutional treatment, the administration of cod-liver oil, etc. He could see no advantage likely to follow cutting out the foci. Spinal rigidity after typhoid fever was due to a mild periostitis about the points of exit of the nerves. He thought forcible correction with anesthesia would be excellent treatment in this case. He had seen a number of typhoid hips. One of them was under treatment by repeated forcible motion under anesthesia followed by massage.

Dr. WHITMAN thought that the spinal deformity was the most important feature of the case and that it required immediate correction. He said that the girdle-wrinkle was not caused by muscular spasm but was simply a fold in the abdominal wall answering to the projection backward which had taken the place of the normal lumbar lordosis.

Dr. SAYRE said that he had noticed the girdle-wrinkle in many cases. It would be higher or lower according to the location of the disease. It was due to muscular spasm which accompanied any muscle subject to irritation and joint inflammation. It was diagnostic of Pott's disease and was present even when there was no appreciable projection.

Dr. TOWNSEND said taking the foci out would, in nearly every instance in the patient in question, involve opening into a neighboring joint. He would put the patient on antisyphilitic treatment and later consider the other suggestions made.

Chicago Ophthalmological and Otological Society.

Regular meeting held Jan. 11, 1898, in the Stewart Building.

Dr. MONTGOMERY in the chair.

There were eighteen members and visitors in attendance.

The minutes of the previous meeting were read and approved.

Dr. W. F. Coleman was elected president; Dr. H. M. Starkey, vice-president; Dr. C. P. Pinckard, secretary, and Drs. Hotz, Montgomery and Wilder the Committee on Membership for the ensuing year.

The treasurer's report was read and adopted.

Dr. WOOD reported a case of

PRIMARY SARCOMA OF THE LID.

Baby A., aged 7 months, an only child, was born a healthy and well-developed infant, and although nursed on the bottle has always been vigorous and to all appearances free from any hereditary disease. There is no history of malignant neoplasms affecting immediate ancestors. When she was 6 weeks old the mother noticed a slight elevation on the right upper lid. It was firm to the touch, rolled about under the finger, and was not surrounded by a red or swollen area, on the skin surface, at least. On consulting an oculist in the neighborhood, he advised her to watch the little tumor, and if it increased in size it might be safely removed later on. It remained in *statu quo* until the child was 3 months old, and then the mother believed it to be growing and consulted a well-known ophthalmologist in Boston. He would not give a positive opinion, but kept the patient under observation for about a month longer before advising its immediate removal. As the family was about to remove to Chicago, nothing was done. The condition of affairs was about this when I first saw her, two months ago: The right upper lid is slightly swollen throughout and of a darker pink than the corresponding left lid; there is a rounded prominence occupying the junction of the middle and inner third of the lid. On palpation an irregular oval, apparently movable body of rather firm consistence and of the size of a white bean is felt, not unlike the ordinary chalazion. The dermal vessels are slightly more numerous and larger than are those of the opposite side. On everting the lid the body seems to project somewhat on the conjunctival aspect of the lid, and corresponding to the projection is a round mass covered with red and thickened mucosa. The vascular supply is decidedly greater than in the ordinary non-suppurating chalazion. The mass appeared to involve the tarsus. There is apparently no pain in the eye and no increased conjunctival secretion.

The tumor was removed completely, under chloroform narcosis, from the conjunctival surface, using a fenestrated forceps. There was free hemorrhage and the tumor appeared to be imperfectly encapsulated. It involved the tarsus, part of which was removed at the time of operation. Macroscopically it resembled a small piece of muscular tissue. Dr. Evans of the Columbia Medical Laboratory, examined the growth and gives the following report: "Fresh specimen, 6x4x2 mm. No epithelial covering. Microscope shows it to be composed of round and spindle cells, more of former, with considerable intercellular substance, some pre-existing fibrous tissue, an artery with unusually thick walls. The growth is sarcoma."

The sections exhibited showed as naked vessels communicating directly with the cells. So far there has been no recurrence of the growth.

In reply to Dr. Pinckard, Dr. Wood stated that the clinical diagnosis rested on the question of the injection both of the conjunctiva and the skin, it being more marked than in an ordinary chalazion.

Dr. ALLPORT showed a case of

TUMOR OF THE FUNDUS,

suspected to be a beginning leucosarcoma of the choroid. The patient a woman 28 years of age, with a vision of 20-20 in each eye. On the right side she has ophthalmic goiter with classic symptoms, the fundus of the eye being normal except for the enlarged veins. In the left eye a small round grayish white elevation, just to the macular side of the disc, which it apparently joins. The tumor is about half the size of a nerve head and looks like a mass of clouds, the elevation being about 1 D. A retinal vessel courses over the surface and some pigment on the surface would seem to indicate that it originated in the choroid. Forming a semicircle around it may be seen many pigmented choroidal splashes. The peripheral field for white is perfect, but a small scotoma for red and green close to the physiologic blind spot was found.

Dr. HENRY GRADLE reported a case of

TARSITIS

and reviewed the literature. There are on record only twenty cases of this rare affection, but from the similarity of all a well defined type of disease results. The affection is always of syphilitic origin. Four cases with acute onset are reported as early manifestations, while all the others presented a chronic course and occurred late after the infection. It appears in the form of a diffuse, hard swelling of the tarsal plate of the lid. With two exceptions it was limited always to one lid of one side. There is neither pain nor tenderness. As a rule, the skin is not altered; in some instances it is described as livid. In the speaker's case there was intense inflammatory congestion and edema of the skin of the upper lid as long as the case remained under observation. The conjunctiva is generally not involved. In some instances, like the present one, there was catarrhal conjunctivitis with some hypertrophy. In the present case a high grade of congestion and chemosis was observed in the ocular conjunctiva, and the cornea was temporarily clouded. In all cases on record the disease was controlled by specific treatment, but invariably lasted months, several times a number of months. In the speaker's case the patient, a girl of 24 years, did not admit or present evidences of syphilis, but was put first upon mixed treatment, subsequently upon large doses of iodid of potassium without any visible influence. Swelling increased during the observation in spite of the treatment. The accompanying catarrhal conjunctivitis was temporarily aggravated by the patient's improper use of the bandage, but healed on proper management and the use of nitrate of silver applications. This, however, did not lessen the tarsal swelling and influenced but little the inflammatory edema of the skin. A decided control over the tarsal swelling was finally obtained by an ointment of 10 per cent. of pyrogallic acid. The influence of this salve was studied advantageously on account of several interruptions in the treatment with a standstill of the tarsal swelling. The patient was lost from observation before a complete cure was obtained.

Dr. STARKEY said: This case is the only one of the kind I have ever seen. I ascribed the same cause as did Dr. Gradle, and gave her the mixed treatment in moderately full doses, but did not check the inflammatory condition at all.

Dr. ROBERTSON of Davenport, Iowa, showed

A POST-ORBITAL TUMOR

taken from a boy about 10 years of age, in whom exophthalmus

of the right eye had existed for two years, it being so marked that the lids could not cover the cornea. The resistance was so great that the diagnosis of solid tumor was made. The motion of the globe was *nil*, as also the visual power. Immediate removal was done, and specimen shows that the tumor originated in the optic nerve some little distance behind the eyeball as there is apparently healthy looking nerve between the tumor and the eyeball. It was attached to the periosteum just external to the edge of the optic foramen. The tumor was removed in August, 1896, and since that time the boy has been wearing an artificial eye with no return.

In reply to Dr. Pinckard, Dr. Robertson said that there was no evidence inside of the eyeball except for atrophy of the optic nerve fibers.

Dr. ROBERTSON showed some Texas screw worms removed from the brain of a man postmortem, they having entered through the nose and pierced the ethmoidal plate.

On motion, the Society adjourned.

C. P. PINCKARD, Secretary.

Chicago Gynecological Society.

A regular meeting was held Feb. 18, 1898, in the Stewart Building, with the President, Dr. HENRY P. NEWMAN in the Chair.

The Society entertained the Trustees of the AMERICAN MEDICAL ASSOCIATION. The guests of honor were Drs. Alonzo Garcelon, G. C. Savage, I. N. Love, E. E. Montgomery, J. M. Mathews, C. A. L. Reed, Joseph Eastman, J. T. Priestley, Truman W. Miller and John B. Hamilton.

Dr. FRANKLIN H. MARTIN exhibited two specimens of fibroid tumor of the uterus removed by hysterectomy. The specimens showed how difficult it would be to apply myomectomy to all cases. He thought it would be impossible to have removed these growths without, at the same time, removing the uterus.

Dr. J. FRANK exhibited specimens of dermoid cyst which he brought with him from Vienna when abroad last summer.

President NEWMAN extended a cordial invitation to those whose names did not appear upon the program as essayists to participate in the discussion.

Dr. JOSEPH EASTMAN of Indianapolis, Ind., then read a paper entitled

VAGINAL HYSTERECTOMY AND IGNI-EXTIRPATION.

The essayist said that the Eastman method for vaginal hysterectomy as devised and followed by him for ten years, was described as long ago as 1890, and its advantages over many other methods of procedure appealed so strongly to those who practiced it, that he hoped he would be pardoned for again rehearsing its details and emphasizing its advantages.

Dr. Eastman then described his method of performing vaginal hysterectomy in detail.

Dr. FERNAND HENROTIN had seen Dr. Eastman do the operation he had described, very skilfully and beautifully, and considered it at the time a very ingenious method of bringing the uterus into view. Relative to the use of the cautery, he had employed it in every instance of malignant disease of the uterus for several years, believing there was always an advantage in feeling that the tissues were burnt out in this way.

Dr. EMIL RIES thought the time for vaginal extirpation of the uterus had passed if the organ was carcinomatous, for the reason that the surgeon by removing this organ alone could not entirely get rid of the carcinomatous process.

The discussion was closed by Dr. Eastman.

Dr. E. E. MONTGOMERY of Philadelphia followed with a paper entitled

REMOVAL OF FIBROID TUMORS OF THE UTERUS WITHOUT HYSTERECTOMY.

He said that in presenting this subject he did not claim to reveal a new surgical device; for, the removal of such growths, without the sacrifice of the uterus, had been done by many operators a number of years since. In view of the hesitancy of many women to undergo a sacrificial operation and of the prolonged and unpleasant phenomena consequent upon a premature establishment of the menopause, he emphasized the employment of the procedure under consideration as an alternative for hysterectomy. There were, he believed, at the present day, but few operators who preferred hysterectomy to myomectomy for distinctly pedunculated subperitoneal or submucous fibroids, but there was a large number of cases in which the organ was occupied by an interstitial or a sessile submucous fibroid, or by many growths of all varieties, as classified by situation, where a healthy functionating organ could still be retained after the removal of the growths. Such practice with proper aseptic precautions was in his opinion attended with less shock and discomfort to the patient than the apparently more simple operation of extirpation of the diseased organ.

The choice of route, whether vaginal or abdominal, depends upon the situation and size of the growth. All pedunculated or sessile submucous and interstitial fibroids, not too large to pass through the pelvis, should be attacked through the vagina. When the growth is so large that it rests above the brim of the pelvis, or the uterus is occupied by a large number of growths, possibly comprising every variety, the abdominal route was preferable. Of course, it could not be questioned that there were cases in which the uterine structure was so occupied by growths as to preclude the possibility of their removal with any hope of the subsequent retention of the uterus, nor would the retention of the uterus be good practice where the presence of growths was complicated by the existence of irrecoverable double tubal or ovarian disease. By either the vaginal or abdominal route, in the majority of cases, the procedure was mainly a process of enucleation in which a blunt dissector and not the fingers should play the important rôle. The enucleation can thus be accomplished through a minimum incision with less danger of infection. Small sized growths of the submucous variety which have partially or completely dilated the cervix, present but little difficulty in either diagnosis or treatment. If the cervix is insufficiently dilated to permit its investigation and exit, a bilateral incision can be made and the tumor removed. It is when the growth is situated within the body with the cervix long and undilated that the difficulty presents. Here a careful investigation of the situation and relation of the growth is an important perequisite to any operative procedure. Such an investigation is only secured by a dilatation of the canal that will permit of digital exploration. This may be accomplished by repeated packing with gauze (Vulliet's method), dilatation with bougies (Hegar's), the use of tents, or bilateral incision of the cervix to or beyond the internal os (Pean's). The latter procedure seems too severe a measure for mere diagnostic purposes; will prove unnecessary for the removal of some growths, and the situation of the incision will prove impracticable or embarrassing in the treatment of others. Dilatation by gauze packing is generally slow, frequently ineffective. Bougies will result in tearing before the canal is open sufficiently to admit the finger. Dilatation by tents is the most satisfactory. Sponge tents accomplish the dilatation most rapidly, but are so difficult to render aseptic, and so easily infected, that their employment is dangerous. The hollow laminaria tent of good size will in the course of twelve hours in the majority of cases render digital exploration possible. Where the dilatation is incomplete it may then be safely effected by the use of bougies. If the surgeon is not prepared for operation at the time of investigation, the dilatation secured may be maintained twenty-four hours by gauze packing. It must be understood, however, that in all these procedures the most rigid asepsis must be practiced.

Having rendered the tumor accessible to the touch, further procedure must depend upon its situation, size and relation. A small pedunculated tumor will in this manner be rendered almost as accessible to manipulation as if situated in the cervix. Dr. Montgomery then reported cases illustrating the use of myomectomy without the removal of the uterus.

Dr. FRANKLIN H. MARTIN thought that in tumors involving the uterus to the extent of some of those described by the operator a hysterectomy would be a much easier and better procedure.

Dr. ALBERT GOLDSPOHN reported the case of a woman, 37 years of age, recently married, three months pregnant, who had a single fibroid tumor in the left wall of the uterus, so low down as to act a barrier to pregnancy. He did a panhysterectomy. If this was not the right course to pursue in such a case, he would like to know it.

Dr. N. SENN stated that it was important in transperitoneal myomectomy to make the incision very small, using the knife as little as possible, the enucleation being done largely by the director. The more he had resorted to this method the better he liked it and believes it to be an ideal way to treat by operative procedure uterine myofibromata in all cases in which such a method was possible anatomically or pathologically. He had made it a rule recently to invariably make the incision transversely, for the reason that it minimized one of the dangers attending this operation—hemorrhage.

Dr. C. A. L. REED of Cincinnati said that with the French treatment of *morcellement*, with the American practice of myomectomy, he believes we are saving organs today which a few years ago were sacrificed, not to unwarranted zeal, but to the fact that our knowledge had not yet attained that precision and accuracy which enabled us to deal with these cases as we deal with them today. The trend of operative gynecology was in the direction of practical conservatism.

Dr. E. C. DUDLEY had no doubt whatever that a large number of cases of uterine myomata could be treated satisfactorily and safely by the method described by the essayist. In all of his operations during the past ten or twelve years, he should say that more than one-half of the tumors had been removed by myomectomy and the uterus retained.

Dr. FERNAND HENROTIN spoke in favor of vaginal enucleation of fibroids, whether intramural or submucous. He does not think there is any operation in gynecology so satisfactory as the morcellation of a growth sufficiently large to indicate it, or the enucleation of fibroid tumors through the vagina. It was folly, in his opinion, for any surgeon to attempt to enucleate a subperitoneal growth by the vagina which was situated well up in the abdomen.

Dr. C. S. BACON emphasized the method of enucleating uterine myomata through the vagina, and directed attention to the indications for it. He asked Dr. Montgomery whether any of the cases operated on by him had become pregnant and what was the course of pregnancy.

Dr. T. J. WATKINS referred to the disadvantages of myomectomy. The first of these was the presence of small nodules which later developed and caused trouble. The second disadvantage was the presence of soft fibroids, which had so much of the consistency of the uterus as to make it impossible to palpate them and remove them.

Dr. JOSEPH B. BACON reported a case in which he did a myomectomy and left the uterus intact. All things considered, he is satisfied that the woman would have had a better show and her life would have been saved had he performed hysterectomy. He hoped the essayist would keep track of the cases in which he had enucleated so many tumors, and at some future time inform the profession whether the women became pregnant, and as to the course of pregnancy.

Dr. A. H. FERGUSON cited a case in which he removed nine myomatous growths through the vagina, the woman being nine weeks pregnant. Most of the tumors were intramural.

Dr. FRANK A. STAHL asked Dr. Montgomery whether he found the use of tupelo tents exposed women to any particular danger.

Dr. MONTGOMERY, in closing, said he did not present a method of treatment which would save the uterus in every case. There were cases in which the uterus was involved to such an extent that hysterectomy would be preferable to myomectomy. In the case of Dr. Goldspohn, he thought a hysterectomy would be the preferable procedure. None of the cases operated on had thus far become pregnant. Replying to the question of Dr. Stahl, he said before a tent was introduced it should be placed a few minutes in a saturated solution of iodoform and ether, inserted into the canal, introducing iodoform upon the tent and keeping it in place. In those cases where he desired to explore the cavity to determine the condition, where he had used tents, he had not seen a single case of sepsis as a result. He would not use a tent in a case that had previously suffered from some inflammatory condition of the uterine or pelvic structures, parametric adhesions, etc., as he would be afraid to do so.

Dr. JOSEPH M. MATHEWS of Louisville followed with impromptu remarks, in which he made an eloquent

PLEA FOR EXAMINATION OF THE RECTUM IN OPERATIVE GYNECOLOGY.

He believes that all pathologic conditions involving the rectum could be made out by the touch without the use of instruments. Syphilis of the rectum was a disease that manifested but few symptoms. He had met cases where the only symptom complained of was constipation, but upon examination he had found the rectum blocked with a deposit. A lady consulted a gynecologist, who removed her ovaries. A few months after she consulted Dr. Mathews, and upon examination he found cancer of the rectum. He performed a Kraske operation. The point he desired to draw attention to was whether the rectum was examined by the gynecologist. He did not think so. He had reported five fatal cases of disease of the rectum that had been operated upon by gynecologists, and yet it was the rectal disease that ended life. The gynecologist, before doing any operation in the abdomen, should always make a careful examination of the rectum.

Association of American Anatomists.

Upon the invitation of Cornell University, the Association met at Ithaca, N. Y., Dec. 28-30, 1897. Morning and afternoon sessions were held on each of the three days excepting Wednesday, when all the affiliated societies met in the afternoon with the American Society of Naturalists. Notwithstanding the small attendance the sessions were fully occupied with reports, papers and discussions, and several papers were read by title for lack of time. After a brief introductory by the President, Dr. Frank Baker, Dr. B. G. Wilder read an obituary notice of Dr. Harrison Allen, one of the founders and presidents of the Association. The report of the Secretary-treasurer, Dr. Lamb, showed that there were 105 active and 4 honorary members. Dr. Allen and Dr. Wm. Laurence Dana of Portland, Me., had died and Dr. P. J. McCourt of New York City had resigned. Beginning with the present year the annual dues are $3. The circular and blanks in reference to the anatomic peculiarities of the negro race were ordered to be modified and copies sent out for report of cases. The Association adopted the report of the majority of the Committee on Anatomic Nomenclature and ordered it to be published and distributed as soon as practicable, accompanied by the objections of the minority of the Committee, and comments thereon by the Secretary of the Committee. Of the neural terms recommended, more than one hundred were identical with those adopted in 1895 by the Anatomische Gesellschaft.

The following papers were read and discussed; they were illustrated by specimens, photographs and diagrams:

P. A. Fish of Ithaca, N. Y., "A fluid for the retention of the natural colors of anatomic specimens," and "Mummification of small anatomic specimens." George S. Huntington of New York City, "Comparative anatomy and embryology as aids to the teaching of human anatomy in the medical course." Dr. Wilder, "An adult and healthy living cat, lacking the left arm, excepting the scapula, and having the heart apparently at the epigastrium." Woods Hutchinson of Buffalo, "Relative diameters of the human thorax." D. S. Lamb of Washington, D. C., "Pre-Columbian syphilis." Charles H. Ward of Rochester, N. Y., "A cranio-mandibular index." Prof. Howard Ayers of the University of Missouri, "The membrana basilaris, membrana tectoria and nerve endings in the human ear"; read by Dr. Hopkins. Dr. Wilder, "Certain resemblances and peculiarities of the human brain." B. B. Stroud of Ithaca, N. Y., "The ape cerebellum." Dr. Fish, "The brain of the fur seal, *Callorhinus ursinus*." Dr. Huntington, "The eparterial bronchial system of mammalia." J. A. Blake of New York City, "The relation of the bronchi to the thoracic wall." Thomas Dwight of Boston, "The distribution of the superior mesenteric artery." D. W. Montgomery, University of California, San Francisco, "Sebaceous glands in the mucous membrane of the mouth"; read by Dr. Lamb. Dr. Stroud, "Notes on the appendix." Prof. S. H. Gage of Ithaca, "On the relation of the ureters in the cat to the great veins; with variations." Dr. Wilder, "A number of specimens of either unusual or specially instructive character." H. A. Surface, Fellow in Cornell University, "Notes on the fish fauna of Cayuga Lake."

The following papers were read by title: Prof. George A. Dorsey of Chicago, "Description of two Koutenay skeletons," and "Two examples of unusual ossification of the first costal cartilages." E. R. Hodge of Washington, D. C., "Relation of sex to the size of the articular surfaces of the long bones." J. T. Duncan of Toronto, "Anus vulvalis." Woods Hutchinson, "A skin-heart?"

The following officers were elected for the ensuing term: B. G. Wilder of Ithaca, president; Geo. A. Piersol of Philadelphia, first vice-president; William Keiller of Galveston, Texas, second vice-president; D. S. Lamb, of Washington, D. C., secretary and treasurer; F. J. Brockway of New York City delegate, and R. W. Shufeldt of Washington alternate to Executive Committee of Congress of American Physicians and Surgeons; F. J. Shepherd of Montreal member of the Executive Committee of the Association, in place of Dr. Huntington, term expired.

The following candidates were elected active members of the Association: Frank Irving Brown, A.M., M.D., of South Portland, Me., instructor of anatomy, Portland School for Medical Instruction. George Amos Dorsey, A.B., Ph.D., acting curator of anthropology, Field Columbian Museum, Chicago. Grant Sherman Hopkins, D.Sc., assistant professor of anatomy, Cornell University. G. Carl Huber, M.D., assistant professor of histology, University of Michigan. A. T. Kerr, M.D., acting professor of anatomy, Medical Department, University of Buffalo. Alfred King, A.B., M.D., demonstrator of anatomy, Bowdoin College. Edward James McDonough, A.B., M.D., demonstrator of histology, Bowdoin College. John Anderson Springle, M.D., C.M., lecturer on anatomy, McGill University. Robert J. Terry, M.D., demonstrator of anatomy, Missouri Medical College, St. Louis. Prof. Albert H. Tuttle, D.Sc., University of Virginia.

The following eminent anatomists of the Old World were elected honorary members: Dr. Mathias Duval, Paris; Dr. Carl Gegenbaur, Heidelberg; Dr. Wilhelm His, Leipzig; Dr.

Albert von Kölliker, Wurzburg; Dr. Alexander Macalister, Cambridge; Dr. L. Ranvier, Paris.

It is understood that the next meeting will be held in New York, during the Christmas holidays, in conjunction with the Society of Naturalists and other affiliated societies.

New Jersey State Sanitary Association.

(Concluded from page 557.)

Dr. B. MEADE BOLTON of Princeton read a paper on

VITALITY OF PATHOGENIC GERMS IN DRINKING WATER.

One of the most striking features of the bacteria is variability. These organisms are subject to variability of shape, of all these vital manifestations, such as fermentation, production of disease and of pigment, in the capacity of living in various media. They possess no characteristic not subject to variation. The anthrax bacillus, ordinarily a short sharply cut rod forming spores or resistant bodies under favorable conditions and capable of producing a virulent infectious disease in man and animals, sometimes becomes so distorted in shape as to be unrecognizable under the microscope. It may be made to lose its power of forming spores and of producing disease. The diphtheria bacillus is sometimes a fine uniformly stained rod; at others it appears as a large irregular nodular rod. Sometimes both ends are swollen and apparently distorted, sometimes one end alone. Again, the rod stains irregularly; the protoplasm is collected into clumps and granules in the cell membrane. The bacillus prodigiosus frequently resembles a coccus, and at others appears as a distinct rod or even a short thread. This organism which ordinarily forms a deep red mass on the nutrient medium, frequently loses its power of producing pigment. Percy Franklin has found out that with certain bacteria it is possible to force them to produce certain products of growth by gradually introducing certain substances into the nutrient medium. The speaker had found that the bacteria may be accustomed gradually to the presence of substances in the nutrient medium that would be sure to destroy or inhibit the growth. There is even evidence that the bacteria may be finally stimulated to increased growth by the gradual introduction of substances classed as germicides. But it is useless to multiply examples. The variability of the bacteria under the influence of external conditions is well recognized, and the sensibility of these to environment has been abundantly shown. This property must be ever borne in mind. It must not be forgotten that the bacteria are living cells, and not chemic compounds. All cells have more or less individuality, and all agglomerations of cells have variable characteristics. This can be illustrated by any series of experiments with disinfectants. The use of a certain amount of the disinfectant may destroy many of the organisms, and yet leave many more unaffected. The same amount of the disinfectant may kill more of the organisms in one culture than in another. Hence we can not wonder at the vitality of the bacteria in water. The typhoid fever bacillus has been found to live for thirty days in water into which it was introduced intentionally, and yet it is frequently found to die out much sooner than this in water. In many experiments he had endeavored to arrest the vitality of various pathogenic bacteria and the discrepancy in results was a surprise and a disappointment. Sometimes they diminished and disappeared much more quickly than at others. Yet this is not to be wondered at. There are many factors that determine how long they are likely to remain. The number introduced, the special adaptability to water of those that are introduced, the temperature of the water, the number of other kinds of bacilli present, all are factors in the play. Again, the amount of organic matter that could furnish a supply of nutrition might be a factor. He always found that pathogenic bacteria introduced into water disappear sooner or later. They do not multiply even in foul water from a shallow well, and fail even when this water was freed from other bacteria that is sterilized. He was able to obtain a multiplication in water only after he had added a certain amount of peptonized beef broth. It was necessary to add an amount of broth estimated to contain 67 milligrams of organic matter to a liter of water before any growth could be obtained of typhoid bacillus, and the equivalent of 400 milligrams of organic matter before any multiplication of the cholera organism could be obtained. This amount of organic matter is never found in the most contaminated water, and not only this, but the kind of organic matter used in the experiments is not found. What is found ordinarily would be less suitable for the typhoid and cholera bacilli than the carefully prepared peptonized broth used in the experiments, and it may safely be stated that where water becomes contaminated with pathogenic bacteria these will disappear rapidly, owing to lack of proper nutrition and to the conflict of other bacteria, the saprophytes, found always in contaminated water. There are bacteria that multiply even in distilled water, and these are the aquatic bacteria which quickly make the pathogenic form disappear. The latter are very choice in their food. We must prepare the media for their cultivation with great care, and they stand no chance in competition with the hardy saprophytes found in water. The pathogenic must be given conditions closely resembling those of the animal body to grow and multiply; the saprophytes, on the other hand, flourish at a lower temperature and with less elaborate food. This is the reason why the examination of water shipped to the laboratory is of no use. In a few hours it is changed as to its flora, some abundant at first are less so; others, few at the start, increase often enormously. It is an interesting experiment to examine water freshly caught, let it stand and examine at intervals. About two forms usually survive and increase very rapidly. One is a bacillus fluorescent, non-liquefacient, and a micrococcus, to which he gave the name micrococcus aqualilis. For this reason it is never worth while to attempt an analysis of shipped water.

Results are misleading. The danger from contaminated water arises from the use of the water very shortly after contamination. Of course, if there is a source of continuous contamination, then the water is dangerous at all times, and the organisms are easily found, as during the cholera epidemic of Hamburg and Altona. In case of typhoid the matter is peculiarly difficult and time-consuming. Again, another difficulty is the want of definite characteristics of typhoid bacilli themselves. The matter of contamination of water with this form is of more importance to us in this latitude, and it would be of the greatest value to be able easily to recognize this organism. Satisfactory results are not obtainable without the expenditure of a great amount of work and many precautions in the collection of samples, and immediately making cultures. He questioned the utility of one examination. A well may be free and contaminated at different times. The chief if not the only danger arises from surface contamination. If water filters through a soil it is purified. Now, during a dry season, there is little danger from the surface drainage. Only in case there is a crack or crevice leading from a privy vault or other source of contamination is there great danger of infection. Esmarch has shown that pathogenic bacteria rapidly die out in the soil within one or two days, so that it would be a difficult matter really to make the bacteria pass from a privy vault to a well through soil in which there are no crevices. Flugge is of opinion that infection of water is more apt to take place indirectly than directly. He does not deny any more than others that what the Germans call "massen infection" takes place from drinking water. In the case of typhoid fever Dr. Bolton always believed that danger of spreading the disease arises as much from indirect contact of food and vessels, for food and drink, with the typhoid excreta as from contaminated water. Finally, pathogenic bacteria usually have a brief life in water; under ordinary conditions multiplication and growth are not favored; the danger of the spread of the disease in this way is transitory unless the source of contamination is continuous as from a channel leading from a privy vault. Water is probably infected frequently after it is drawn and carried into the house for use just as food probably is.

Mr. H. B. BALDWIN, chemist of the Newark Board of Health, said we may search for a long time in the literature of the subject and not get such definite information. It is well to know what conditions favor or destroy the growth of bacteria in open supplies. In the case of surface water it is important to know definitely what conditions affect the vitality of pathogenic germs, as it is supplies of this character that usually cause the most serious epidemics. It is also in such areas usually impossible to find the germ on account of dilution or to the fact of the absence when looked for; in the case of ground water the action of the soil on the vitality of the bacteria is most important. In London, a few years ago, the relation of cholera spirillum and typhoid bacillus was discussed. Experiments were made in sterilized soils of white sand, yellow and garden earth, and peat under various conditions of moisture. It was found that the cholera germ in dry soil did not live more than two or three days; in ordinary dry soil, about three days; in moist white sand, seven days; in moist yellow sand and garden earth, thirty-three days; and under certain conditions of moisture and evaporation, the germs were alive at the end of 174 days, the life-supporting power of white sand being the least. In peat, death always occurred in about twenty-four hours, notwithstanding the amount of moisture. The typhoid bacilli in ordinary dry soil were found up to the ninth day in the white sand; to the eighteenth in yellow and to the fourteenth in garden earth. In moist white sand they were alive on the

twenty-third day; in yellow sand and garden earth on the forty-second day. Peat caused death in twenty-four hours. Now, in view of the destructive action of peat it seems reasonable to suppose that peaty waters, so plentiful in this State, would excite an unfavorable action on the growth of bacteria contained therein. Miquel says when samples of various waters, pure and impure, are maintained at a constant temperature of 68 degrees F., they vary differently in the matter of the increase of their bacterial contents. With pure water the increase is rapid and temporary, while with impure water it is slow and lasting. The decrease of bacteria when intentionally introduced into water is due no doubt to the presence of toxins produced either by these or other bacteria. These toxins are very volatile and the following interesting experiments by Prof. Martin furnish, in a striking manner, the deadly effect of the toxins on bacteria. Some water slowly distilled in a special apparatus at a temperature between 86 and 95 degrees, was inoculated with the germs from 1650 liters of air. The number of bacteria found in the water were: immediately 75 per cent.; six days later, 7 per cent.; sixteen days later, 1.5 per cent. Note the difference between this and the next experiment. River water sterilized in the ordinary manner was inoculated with germs from twenty liters of air. The number of bacteria per cubic centimeter was then 6.5 per cent.; seven days later, 750,000 per cent.; ten days, 900,000 per cent.; thirty-one days, 16,750,000 per cent.; ninety days, 62,500 per cent.; 273 days, 48,000 per cent. In a paper read before the American Chemical Society by Dr. Dunham, he states: The chief aim of the examination of water with reference to its fitness for drinking, is to learn whether it contains, or is likely to contain, any poisonous substances or the contagion of disease. The detection of mineral poison falls within the domain of chemistry. The actual isolation of specific bacteria can only be done by bacteriologic methods; true so far as it goes, but he only stated the smaller part for the chemist; leaving out the question as to the possible extent to which the bacteriologic examination may be pushed, the practical and usual examination consists of counting the number of bacteria per cubic centimeter, and searching for the typhoid bacillus and the bacillus coli communis. The latter as a constant quantity in feces, indicates sewage pollution. The typhoid bacillus is rarely found in drinking water, although most positively known to be present. This leaves the colon bacillus as the main evidence of the bacteriologist of sewage contamination. As he does not find the pathogenic germ he can not do more than class the water as dangerous.

It should be remembered that the bacteriologist looks for something that is in suspension, while the chemist determines substances in solution. The bacillus may, in the case of well water, be temporarily filtered, while other soluble matters are not affected. On the other hand, the polluting matter may be so largely diluted that chemic tests will fail to reveal it, and yet there may be enough coli bacilli to give a positive indication. As an illustration, a few days ago he had examined some water from a well situated within a few feet of a cesspool and found it grossly polluted. A bacteriologic examination failed to reveal any coli bacilli, and pronounced the water safe. Here the bacilli had been filtered out by the soil. But who knows what day they may come again, or rather through the soil filter? The city supply of Newark furnishes an example of the other condition. Any one who has seen the water shed can not doubt the presence of coli bacilli constantly in that water, as it has been for years; yet chemically, the water is of excellent quality. This is not the fault of the bacteriologist; there simply did not happen to be any germs in the few drops he examined. Do not understand me to belittle the work of the bacteriologist, said Dr. Baldwin; his aid is of the highest advantage, but it will readily be seen that there may be many cases where either form of examination would give positive results, and hence for safety, in all cases both must be employed, as each supplements the other.

Dr. N. L. Wilson of Elizabeth read a paper on

NOTIFICATION OF MEASLES AND WHOOPING COUGH.

He said: There were 275 deaths from whooping cough in New Jersey and 300 of measles during 1896. The first carried off more than the average of persons during the last eighteen years. Measles gave 2907 deaths, a low estimate because cases of both are not always properly recognized, and in many instances the primary cause of death is not given. In the last eight years there were 2223 of whooping cough and 1354 of measles. The majority of the profession are of the belief that we can not restrict the spread of either disease, because of their communicability at such an early period. The question is simply one of expense. Notification of measles without corresponding disinfection, isolation, etc., is useless. They could be limited if properly cared for and the work carried out. Great success attended the work in this way in Birmingham. He mentioned a case where a child had measles, recovered, the family removed. In two weeks a child of the new family who moved in had measles and died from bronchial pneumonia. Here, isolation in one room and prompt disinfection would have saved the last child. Disinfection can not be done unless notification is insisted upon. While we acknowledge the difficulties in the case, yet it is worth an effort. Measles respects nothing but sanitation. This muzzles it and makes the epidemic milder. The etiology of measles shows it to be intensely contagious all the time, most at full efflorescence, less in the period of incubation and least or not at all after desquamation. It is not believed that we have found the specific organism of either. Whittaker says, "prophylaxis is almost impossible, but sickly, debilitated children should be removed from the house where it exists." All know how an epidemic will run through schools. One hundred and twenty cases were confined to the pupils of one parochial school. When asked how this was, the reply was: It is a simple matter; the teachers were required each morning to ask the scholars as to the presence of sickness at home or in the neighborhood. In case of an affirmative, the scholar was not to come in the afternoon. The names and addresses were sent to the chief teacher, who investigated the case, and thus the spread was prevented. The public schools of Elizabeth are connected by telephone; the health inspector communicated with the superintendent of schools each morning; he notified the principals of the various schools, so that they are familiar with the number and cause of disease in their respective schools. If the physician or parents fail to report either of these diseases we can not attempt to check them. He was heartily in favor of notification. It is the duty of the parents and of the physician to do this whenever they can. There may be difficulties in the way of inhibition of the two diseases, but we should at least establish the practice, and undoubtedly the death rate would be reduced and life among children prolonged.

In the discussion two or three opposed notification, but this appeared to come from those not of advanced ideas as to etiology of disease, while the consensus of opinion, though not expressed by the continuation of the discussion, was decidedly in favor. As there were several matters of business demanding the attention of the Association prior to closing the session, these gentlemen did not care to spend the time when, as one very prominent member remarked, such views were utterly in opposition to all sanitary knowledge.

The officers elected for the next year were: President, Dr. John C. Smock of Trenton; vice-presidents, V. L. Davey of East Orange; Dr. Daniel Strock of Camden and G. W. Howell, C. E., of Morristown; recording secretary, Dr. James A. Exton of Arlington; corresponding secretary, W. G. Hoopes of Atlantic City; treasurer, Geo. C. Olcott, C. E., of East Orange.

SELECTIONS.

Hygiene of Degeneracy as Illustrated by Charles and Mary Lamb.—Dr. Kiernan recently presented to the Chicago Academy of Medicine, a paper on this subject. He pointed out that the paternal branch of the Lamb family came from the fens of Lincolnshire where laudanum using is rife, albeit with comparative immunity from the usual effects of opiophagism. In these districts, where degeneracy of type is frequent but ascribed to malaria, John Lamb, the father of Charles, was born. While still a child John Lamb's family removed to Lincoln so poverty-stricken because of the insanity of its head that he had to be made a foot-boy. The fact that he subsequently became barrister's clerk indicates gentler early nurture than this early thrusting into the fierce struggle for existence would seem to imply. John Lamb grew up gay, inflexibly upright, with a dash of chivalry in his nature and a poetic tendency. At the age of 50 years he became insane and died demented. His sister was an uncanny old soul, whose silent ways and odder witch-like mutterings and mumblings, coupled with a wild look in her eyes as she peered out from under her spectacles made her an object of dread. The maternal ancestry was neuropathic. The mother exhibited the capricious affection often present in the degenerate. The maternal grandmother had that moral anesthesia toward mental suffer-

ing which is an offspring of degeneracy. Elizabeth Field, many years younger than John Lamb, her husband, was a handsome, dignified, pleasure-seeking hysteric, lacking insight into child character. Toward Mary and Charles she never manifested maternal tenderness. Mary, a shy, sensitive, nervous, affectionate child, who early evinced liability to brain disorder, peculiarly needed judicious care. The mother always loved John, the eldest, a handsome, lively boy, who became what favoritism was sure to make of an egotist; treated with indulgence by brother and sister who exempted him from any share of the family burden even when he was prosperous. Mary Anne Lamb, born Dec. 3, 1764, was the third, while Charles was the youngest of seven children. All died in infancy save John, Mary and Charles. Mary Lamb was brought up in a lower middle-class home relieved alike from the stress of poverty and speculative wealth. She received her education in a day school. The best of her education was the library of her father's employer. Here she was early left to browse without prohibition on the principle advocated by Ruskin. The degenerate absence of that finer sympathy of human nature in its most alluring aspect eminently unfitted Mary's mother and grandmother for the training of a neurotic child. The primary *ego* so prominent in degenerates while decidedly obtrusive in John, Mrs. Lamb and Mrs. Field, was wonderfully subordinate in Mary and Charles Lamb for children of such heredity. Charles, a weakly child, had frequent night terrors, learned to speak with difficulty and stammered throughout life. The pleasure-seeking nature of his mother, whose maternal tenderness like that of most hysterics had been exhausted on her first-born, devolved his care upon Mary, who mothered him. This outlet for her affection naturally dispelled her loneliness. In after life she warmly described the wholesome influence upon her troubled mind which devotion to Charles brought. As his mind unfolded he still found in her that genial care which had cherished his frame into health. With his hand in hers he first trod the Temple Gardens, spelled out the inscriptions on the sun-dial and on the tombstones in the old burying ground and wondered, finding only the virtuous, "where all the naughty people were buried." The familiar features of the neurotic child appear in the autobiographical sketch Charles Lamb contributed to "Mrs. Leicester's School."

In the Lamb household the domestic outlook grew dark as soon as Mary was grown up. Her father's faculties received a shock and her mother became a paralytic hysteric. At 15 years of age Charles left Christ's Hospital to take up the burdens of an adult. Mary had not only to make head against sickness, helplessness and old age, but to support the family by millinery. She employed herself thus from the age of 21 to 32. When Mary was 30 and Charles 20, the father fallen into dementia had been pensioned off by his employers. Charles, under the stress of puberty, of an unfortunate love affair, and of his struggles to support the family neglected by John, became so insane as to require hospital care. He was able to resume his usual labors as clerk in the India house after six weeks treatment. The psychosis was that unstable type of melancholia so frequent in degenerates, in which flashes of exultation through the emotional gloom are remembered with keen rapture. No sooner was Charles recovered than John met with a serious accident. Whilst in health he had spent his earnings on himself; he did not hesitate to demand home nursing, causing renewed anxiety to his brother and sister. This was the last ounce. Mary, worn out with years of nightly and daily attendance upon a demented father and a hysterically paraplegic mother, harassed by a close application to millinery, was strained beyond physical endurance. About Sept. 15, 1796, the family observed mental symptoms which had so increased by September 21 that Charles early in the morning sought but failed to find Dr. Pitcairn. That afternoon Mary, seized with a sudden frenzy, snatched a knife from the table, pursued the apprentice, when her mother interposing was stabbed, dying instantly. Mary was placed in a private insane hospital where she in a short time recovered, but subsequently became a cyclothymiac. Such a combination of depressing factors constituting a proper etiologic moment would suffice, even in an organization with little or no morbid heredity, to produce a serious transitory frenzy without consciousness of the violent act. The two careers of Mary and Charles Lamb illustrate how, even under the burden of inherited degeneracy and the no less terrible strain of an environment entailing a fierce struggle for existence, a large amount of soundness of intellect and morality may survive. They also illustrate the beneficence of physiologic atavism causing continual attempts to regain a normal type lost for some generations. In Charles Lamb's career there is much to indicate that had dietetics been as well understood then as today, much of his sufferings and so-called eccentricities might have been avoided. The childhood of both Mary and John Lamb demonstrates how readily, in minds of degenerates or of persons at a certain state of culture, the germs of unwholesome atavistic beliefs are created to form the basis of much that proved absurd and even dangerous in after life, despite careful education subsequent to puberty. The two cases also illustrate very fully, since both Charles and his sister were ardent students of the older English dramatists and the older English literature, how much unwholesomness there lies in this as contrasted with works on emotional religion or dogmatic theology. Charles and Mary were both unquestionably devout but with a certain largeness of view which proved a source of mental hygiene in place of a poison like most dogmatic theology and religiosity. Undoubtedly Mary's religious views tended to comfort her when she discovered that she had slain her mother during a fit of insanity. Her mental state, however, differed decidedly from that moral anesthesia produced in certain insane by a hospital sojourn, which makes them so delightfully altruistic within the walls and so brutally egotistic without. Charles Lamb's mental breakdown, which occurred at the decidedly critical period of puberty, illustrates the benefit of hospital care and the folly of home treatment.

The Abuse of Medical Charity; A Critical Review of Recent Literature.—Dr. Frederick Holme Wiggin of New York read a paper with this title before the New York State Medical Association, Oct. 12, 1897. His object was not so much to present individual views as to cull from recent literature, both lay and medical, the opinions of many writers. He said that it was easy to demonstrate conclusively that as at present administered medical charity is demoralizing to both the recipients and the donor. Some idea of the alarming growth and extent of this evil might be obtained from the carefully prepared report of Dr. Stephen Smith to the State Board of Charity. Here it was shown that during the year 1895, 837,971 persons applied for and received free medical treatment at 105 dispensaries in that city; that 1,418,847 free visits were made by these applicants to these dispensaries; and that 78,000 persons received free board, lodging, nursing, drugs, surgical dressings and treatment; in other words, that something more than 49 per cent. of all who live within our borders had claimed in one year to be unable to care for themselves. This should be contrasted with another statement by Dr. Smith to the effect that during the period from 1791, when the first dispensary was established in New York, to about 1870, the applicants for charity bore a ratio to the total population of 1.5 per cent. Dr. Wiggin then went on to quote from an editorial in the *New York Herald* to show that Greater New York spent fifty millions of dollars every year on charities, and that according to a conservative estimate fully 50 per cent. of the donors' money was diverted from the purpose for which it was intended and was practically filched from the poor to whom it rightfully

belonged. Again, according to one author, Dr. J. B. Huber, one might find in large numbers at dispensaries such people as actors, opera singers, gamblers, bartenders, policemen, farmers from out of town, prosperous business men and those owning houses, lawyers, and perhaps even a street railway president. According to another author, Dr. George F. Shrady, fully 50 per cent. of the applicants in the reception room of a well-known institution, which he dubs "the diamond dispensary," were well dressed, 10 per cent. were finely dressed, more than half of the men bore no evidence of poverty, and among the women there was an attractive display of fine millinery; yet all obtained the free treatment supposed to be given only to poor persons. A reporter on one of the daily papers, in describing what he saw at a well-known "clinic," stated that not more than one in fifty was at all shabbily dressed, a large majority were fairly well dressed, one-third of them were quite presentably dressed, and perhaps one fifth were positively well dressed. The reader of the paper said that he knew of a man who paid an enormous rent in a fashionable apartment house near Central Park, and who spent many thousand dollars a year on living expenses, yet he went to what Dr. Shrady had so aptly termed "the diamond dispensary" on the plea that his expenses were so heavy that he could not afford to pay a fee to a doctor. Surely, the author continues, these instances "certainly show the spirit in which charity is asked for and accepted; it is largely a desire to save money, without apparently thinking that self-respect is lost in the effort, or that a wrong is done to the really poor and to the physician, who is certainly as much entitled to his hire as the clergyman, or other members of the community, as he too has social obligations to fulfill." More than this, as Dr. Schweck had well said, in the *Philadelphia Press*: "People of means who go to charity dispensaries and receive treatment free of charge, representing themselves to be too poor to pay for medical services, commit a criminal act, for they obtain what they are not entitled to and do it under false pretenses." Another and important aspect of this subject had been revealed in a communication from Dr. G. M. Roe, Medical Superintendent of the Boston City Hospital, to the *Boston Herald*. He says: "It is a generally accepted fact among people who have had large experience in doing charitable work that the first thing that a man or woman will accept as charity is medical attendance. They will accept free service of the doctor when you could not prevail upon them to accept rent or fuel or anything of the kind as a gift. The acceptance of gratuitous medical attendance is the first step toward pauperism. There is already a tendency toward what is generally known as 'nationalism,' a belief among the common people that the city and State owe them a living, and that medical attendance, among other things, should be furnished them by common taxation, regardless of their financial standing as individuals." Again, as Dr. J. J. Stevenson has expressed it in the *Mail and Express*: "If recovery from disease be secured at the expense of self-denial, the memory of the cost will lead, in ordinary cases, to care that a recurrence of disease and attendant expenses may be prevented. But if the careless feel that treatment, medicine and even diet can be had simply for the asking, there can be no reason for resisting the natural tendency to neglect the laws of health. . . . It is not surprising that the reckless poor see in such careless giving an acknowledgement of the unequal distribution of wealth and believe that it is founded on injustice; nor is it strange that the anarchist's cry is not for opportunity to earn by labor, but for such distribution of wealth as may enable all to enjoy the luxury of idleness." The following are the conclusions arrived at by Dr. Wiggin after a critical review of the subject: 1, that medical charity as at present administered is an unqualified evil, and is seriously menacing our existing social conditions; 2, that the application for free treatment of those able to pay the physician a moderate fee for his services robs the really poor; 3, that all medical charitable institutions should be under the direction and control of State and local boards of charities, who should have the power to enforce their rules; 4, that all applicants for medical charity should be investigated by local charity boards and the unworthy excluded; 5, that no medical charitable institution should be allowed to charge nominal sums for medical or surgical service, nor should they be allowed to charge for medicines or appliances; 6, that all physicians connected with charitable institutions should be paid for the service which they render; 7, that it should be made a misdemeanor, punishable by fine for any person to receive free medical treatment by reason of false representations as to financial condition, and 8, that State or city aid should not be granted to private medical charities.

PRACTICAL NOTES.

Therapy of Sulphate of Duboisin.—This preparation may be used both by the mouth and hypodermatically; preferably by the latter. Among the indications for and against its use are the following: Cases of excitement due to hallucinations and delusions give excellent results. In all forms of chronic insanity with excitement, and in occasional cases of epilepsy, it may be used as a sedative with good results. The author concludes that duboisin should be used only in physically healthy persons. It should never be used, or only very carefully in debilitated persons. It is not suited to acute mania, and is distinctly injurious in melancholia. Duboisin is preferable to hyoscin or hyoscyamin, as the quiescent state established by its use is of longer duration, and there is less prostration during or after its use than is the case with those drugs. The after-effects are not so marked, and few serious cases occur. Its action in some of the worst cases is described by the patients as soothing rather than prostrating, and it does not interfere with the recovery of those treated with it.—*British Medical Journal.*

Surgical Treatment of Hematemesis.—Cazin recently operated on two cases of fulminating hematemesis, one caused by a gunshot wound into the stomach, the bullet passing out through the intestines, the other by a few slight erosions on the posterior wall of the stomach, from which the blood was pouring in sheets. Dieulafoy reports a similar case and is inclined to consider these slight superficial erosions the incipient stage of an ulcer, proposing the name "exulceratio simplex." In both of Cazin's cases recovery was prompt and complete after the stomach had been opened up largely and a few stitches taken in the bleeding points. He ascribes his success to the intravenous injection of one and one-half liters of artificial serum during the operation and again in the evening, as the patients were exsanguinated and ready to collapse. Roux has also had a similar experience in the case of an ulcer which he resected. Marion in his thesis collected six observations, three fatal. Fournier relates several cases of copious and repeated hematemesis in syphilitics, promptly cured with specific treatment after all other medical means had failed. He claims a place for syphilis in the etiology of ulcus rotundum.—*Bull. de l' Acad. de Méd.*, January 18–25.

Glycerin Condoms for Artificial Abortion.—The experience that intra-uterine injections of glycerin were followed by intoxication, injury to the renal parenchyma, destruction of the red corpuscles, chills, dyspnea, etc., has caused them to be rejected by many, although the fact is universally recognized that glycerin is the most prompt and reliable of all means to induce contractions of the gravid uterus. H. Saft of Breslau announces that this power is due to the hygroscopic properties of glycerin. It draws the water out of the tissues and out of the nerves and ganglia, thus stimulating the latter to induce contractions. As the glycerin is absorbed by the blood it draws the water out of the corpuscles; they shrivel, die and dissolve. He has devised a means to use glycerin without allowing it to be absorbed, introducing it in an ordinary fish-bladder condom, sterilized by the Schimmelbusch process of sterilizing catgut (ether, sublimate, alcohol). The condom does not interfere in the least with the hygroscopic action of the glycerin through its membrane walls, but it prevents the absorption of any considerable amount of glycerin into the organism. The condom is inserted empty on a bougie to which it is fastened, the end projecting 2 cm. to avoid tearing. It is then filled through the bougie with 100 cm. glycerin and the mouth tied with an elastic cord to pre-

vent the escape of the glycerin. The bougie is cut to the right length to ensure its correct position between the fetal membranes and the uterus, the outer end just reaching to the entrance of the vagina, which is closed with a cotton pad. The glycerin condom acts as a foreign body while the glycerin exerts its peculiar properties safely through its walls. The condom must be tested and water-tight membranes rejected. Saft is now testing other substances with high endosmotic power to find one equally efficient and absolutely harmless, to substitute for the glycerin, such as sodium sulphate.—*Deu. Med. Woch.*, January 20.

The Grippe and its Therapeutics.—All our European exchanges refer to the prevailing epidemic of grippe, which is raising the death rate everywhere. Maragliano notes the indirect action of the grippe in cases of existing disease, usually manifested in disturbances of the nervous system, especially in disturbed cerebral functions. He has thus observed meningitic manifestations in broncho-pulmonitis, in intestinal catarrh or simple sciatica, in which they are an unusual complication. Another remarkable fact is the tendency of the pyogenic cocci to locate wherever there is a favorable soil starting at once into virulent action; for instance he notes pleuritis commencing pyogenic from the start, broncho-pulmonitis with streptococcic infection and lobar pneumonitis with notable pyogenic manifestations. The rapid appearance of congestive or hemorrhagic phenomena in affections usually free from them, is another feature of the epidemic. Quinin in sufficient doses, he adds, constitutes an almost specific remedy.—*Gazetta d. Osp. e d. Clin.*, January 23.

Re-education of the Muscles and Nerves in Tabes is justly considered a great advance in the therapeutics of this affection. E. Frenkel's system is now supplemented by others seeking to educate the muscles of the inferior members. Goldscheider and Leyden have devised various apparatuses for restoring the disturbed co-ordination by exercises that establish compensation. Some of them are described and illustrated in the *Deu. Med. Woch.*, of January 27 and February 3, which seem destined to accomplish remarkable results in this line, requiring sufficient attention to divert the mind and render the exercise interesting. The influence of suggestion is also important. One is a row of shallow wooden goblets on a sloping shelf, with a similar shelf above and below, in front of which the patient sits, and touches with the tip of his foot the various goblets in turn or alternately from shelf to shelf. Balls in the goblets are to be touched without pushing them out. Another is a narrow platform with hand rails and triangular slabs set upright in the floor at intervals, over which the patient steps. Their position can be altered at will. Another is a spiral marked on the floor, along which the patient walks, supporting himself by a rope from above. Another is a small ladder; the patient seated, inserts the tip of his foot between the rounds in turn. The patient's leg is assisted by an attendant whenever necessary. Simpler exercises are accomplished reclining, with a frame from which the leg is suspended. They urge the advantages to be derived from simple exercises of the limbs in a bath, when they are buoyed up by the water salts. Goldscheider is now experimenting with a bath for the purpose in which the patient can stand erect with his body under water. Leyden by the way, rejects the syphilitic etiology of tabes, which he has always ascribed to "sensibility disturbances." Gutzmann has recently called attention to the great benefit to be derived from the mirror in re educating the muscles, controlling their work by the eye. He separates the muscular act into its component parts and has it performed thus in sections, before a mirror.

Asphyxia Neonatorum.—Richard Hogner, M.D., Boston, Mass., thus describes his method of treatment: The operator seats himself on a high chair; has a tub of lukewarm water placed on the floor at his right hand, with vessels of both hot and cold water within easy reaching distance. He holds his legs together—somewhat bent at the knees—and in an inclined plane; lays his left arm (if he be right-handed) with the "palma manus" turned upward upon the "femores," so that the wrist rests between his knees, and the open hand, with the fingers spread, is free in the air. The child is laid head downward on its back along the operator's left arm, so that the head and shoulders can be supported by the fingers and the infant securely held. The child's body must be sufficiently inclined downward so that the phlegm, edema, etc., can easily run out through the nostrils, and its arms must be outstretched and hanging backward and downward sufficiently to hold the pectoral muscles in the greatest tension, bringing the chest into the maximal position of inspiration. The operator now lays his right hand, with fingers extended, down over the child's breast and abdomen, so the tip of the middle finger rests on the throat, the index and the ring finger on the subclavicular regions, and the thumb and little finger in the armpits. By pressing with the fingers of the right hand on the chest and with the palm on the abdomen, artificial expiration is induced, followed, as soon as the pressure is removed, by an automatic inspiratory movement, which is caused solely by the above described wide-open, over-hanging position. If the operator now continues in right *tempo* (preferably too slowly than too rapidly) to alternate with the pressure and non-pressure of the hand, he can induce artificial respiration of whatever rapidity or depth required.

The frothy substance, often bloody phlegm, etc., which will escape from the child's nose, can be removed as it appears, or one can leave it to itself, because the position the child occupies, with head downward, prevents these secretions from being drawn into the windpipe.

Between the breathing movements, I am accustomed to try to stimulate the tone of the heart by means of delicate percussions on the precordial region in rhythm with the heart beats, which are most easily made by means of the middle and and ring fingers, without otherwise changing the position of the right hand. There is a similar movement employed in Swedish medical gymnastics to great advantage in cases of heart failure, a movement which has proven its mechanically reflective influence on the action of the heart, which becomes stronger, also slower, or more rapid, according to the *tempo* of the movement.

The position of the child is now and then changed to an upright one, partly to empty the bronchi, which has not become drained by the child's downward position, and partly to relieve the auriculi of the heart, at which time, if it seems advisable, the operator dips the child into the bathtub beside him, into the hot water, and then cold water is sprinkled on its breast, etc.

In employing this method the position of the physician is so comfortable that he can continue the operation uninterruptedly for more than two hours, which should be, according to authorities, the shortest length of time generally to devote in efforts for resuscitation of the infant before hope is abandoned. During the process the child undergoes a drainage of most of the respiratory tubes. All necessary manipulations can easily be made, and at the same time the parents or friends are not distressed by methods that seem cruel, such as the swinging of the child in the air, the holding of it by the feet head downward, etc.

For subcutaneous injections as stimulants to the heart action of the new-born child, alcohol, ether and oil of camphor, have been recommended. I prefer the physiologic (or even stronger, 0.6 to 2 per cent.) salt solution, from a few drops to one-half c. cm. at a time. Equally good is perhaps an injection of nitroglycerin, recommended by Dr. J. R. Scott of Clay Center, Kansas, in the *Western Medical Journal* for March, 1897.

This is about the rule he follows: Take a tablet of 1-100 m., put it into a syringe which holds 60 m., expell one-half of the solution and fill the syringe again with water. Of this solution he used 5 m., which equaled 1-2400 of the drug.

I have never made use of nitroglycerin injections either in adults or children. On the other hand, I have often used injections of salt solutions and always with instantaneous effect.

Every time the above described method of treatment by artificial respiration, heart percussion and use of water of different temperatures has been employed the result was a happy one, with a single exception, where even Schultze's swinging was added, and all treatment failed.—*Times and Register*, Jan. 29, 1898.

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SATURDAY, MARCH 12, 1898.

THE RELATION OF GLYCOSURIA TO DIABETES.

In the midst of the very conflicting statements which have been made by physicians and physiologists in regard to the etiology and pathology of this disease, the increasing frequency of which we have already called attention to in the JOURNAL, it may not be out of place to call attention to some of the facts which are known to exist in regard to the pathology of this malady. It is but a few years since we have been taught that the constant presence of albumin in the urine was a pathognomonic sign of parenchymatous nephritis, and indeed the temporary presence of albuminuria from time to time was thought to possess equal significance. Now we know that albuminuria in itself is not a pathognomonic indication of a renal lesion of a serious character, however indicative it may be of nephritic changes. So, too, some years ago it was generally considered that the presence of sugar in the urine was an indication of diabetes mellitus, but today those who know most about this condition recognize two states: one that of glycosuria; the other, true diabetes mellitus. In the former the presence of sugar in the urine is due to the excessive ingestion of carbohydrates or sugars; in the other the moderate ingestion of those foodstuffs are, to the individual who has diabetic tendencies, excessive, even though the quantities actually taken up are small, for while one individual may be able to assimilate large quantities of carbohydrate material, another individual fails to utilize even a smaller quantity of such substances; and while individuals who readily develop glycosuria when their powers of assimilation are slightly strained, may be considered as having a tendency to diabetes, they certainly can not be considered as diabetics. They are simply leaky vessels unable to contain all the carbohydrate material which they ingest. That glycosuria can be produced experimentally in any individual by the ingestion of sugar has been proved by a number of investigations. Recently LINOISSIER and ROQUE have recorded, in *L'Union Médicale*, experiments which they have carried out upon nineteen persons in good health or with disorders of the digestive apparatus. They gave to these patients cane sugar, glucose and lactose in varying quantities, but always in large amounts, so much as to indicate that the resultant glycosuria was a true overflow or an effort upon the part of the economy to get rid of material which it could not utilize. In 29 per cent. of the cases 750 grains of cane sugar produced saccharinuria, and in all of the cases glycosuria ensued when as much as 5,200 grains were administered. As a result of their studies they conclude, as have a number of others before them, that for each person and for each sugar there is an individual co-efficient of utilization, and they have pointed out the fact that as the ingestion of comparatively small quantities of sugar may be followed by glycosuria we should be cautious in making a diagnosis of pathologic glycosuria until we are sure that the sugar in the urine is not an evidence of what might be called overflow. In the *Berliner Klinische Wochenschrift*, for November, 1896, STRUEMPELL, it will be remembered, made a contribution to the study of dietetic glycosuria in which he points out that if the amount of carbohydrate food is sufficiently great, and oxidation processes are imperfect, this failure in oxidation will result in sugar appearing in the urine, and in chronic alcoholics particularly those who drink an excessive quantity of beer, he found that this dietetic glycosuria was readily produced. It is evident, therefore, that we must have in association with glucose in the urine the characteristic symptom group of true diabetes mellitus before we can make a diagnosis of this disease. There must be a tendency to loss of weight, showing that the overflow is in reality a leak. There must be excessive thirst, itching of the skin, excessive hunger, indicating that there is an attempt on the part of the system to make up for the leak, and a tendency to polyuria before the physician has a right to make a definite diagnosis that the patient is suffering from diabetes mellitus. In other words, the presence of sugar in the urine does not indicate diabetes mellitus with its resulting pathologic changes throughout the body, is not a condition requiring so grave a prognosis and is one which simply requires watching by the physician, and avoidance on the part of the patient of excessive quantities of those foodstuffs which the glycosuria indicates he can not readily deal with.

Recently a writer in one of the medical journals of the Atlantic coast, endeavored to prove, first, that gly-

cosuria is pathognomonic of diabetes, and second, that glycosuria would inevitably follow the taking of glucose into the stomach, since under these circumstances it would be absorbed directly into the general circulation without passing to the liver and as a result the patient would become diabetic. Such a woful ignorance of the distribution of the portal vein and of the fact that substances absorbed from the stomach go to the liver through the portal vein in the same manner as do substances absorbed from the intestine, seems to us inexplicable, and the assertion that the entrance of sugar into the stomach would result in diabetes because of its direct absorption, if true, would render most of the population of the United States sufferers from this disease; for, by this theory the conversion of starch into sugar will always result in diabetes, or at least in glycosuria, unless this conversion takes place in the small intestine. Such statements made by one who pretends to a knowledge of the physiology of digestion and assimilation in connection with the carbohydrates would not be worthy of attention were it not that they were presented to the medical profession in a journal of high repute and may serve to befog the minds of those who without careful thought accept views as stated by a writer without carefully analysing the physiologic and anatomic basis for his dogmatic assertions.

SUBPERIOSTEAL HEMATOMA IN RICKETS.

Under this name, and under the name of MÖLLER-BARLOW'S disease, a condition has been described in which a hemorrhagic effusion takes place under the periosteum, which is quite rare, but nevertheless interesting. Six cases of this rare disease have recently been recorded by BRUN and RENAULT, of Paris, in *La Presse Médicale*, Jan. 12, 1898. These six cases were observed in the Hospital for Children's Diseases during the past two years. The first case was that of a girl of three months. The father and mother were healthy, but a younger brother had died in convulsions. The child was born at term after a normal labor and had been nursed for six months. It was brought to the Hospital because of the swelling of the right thigh. The general appearance of the child was good. The fontanelle, however, was wide open, but there was no cranial tabes, no thoracic deformity and the belly was not particularly bulging; perspiration was, however, abundant and the skin pale. The liver and spleen were not hypertrophied nor were there any signs of syphilis. The right thigh was greatly increased in size, the swelling being that of a large orange surrounding the femur and commencing just above the knee. The tumor was hard, but the subcutaneous tissues were movable. The skin had its normal color. There was no crepitation. Palpitation of the femur did not reveal much pain. There were no lesions of the gums, no cutaneous hemorrhages and no ocular symptoms, nor was there any fever. The child did not suffer from either constipation, vomiting or diarrhea and the lungs were clear. In the absence of joint phenomena it was evident that the case was not one of osteomyelitis, and fracture was readily excluded by the absence of crepitation and abnormal mobility and by the size of the tumor. Syphilis and osteosarcoma were also excluded. BRUN and RENAULT also decided on a preliminary puncture and then found that the contents of the tumor was pure blood. The child was placed upon antisyphilitic treatment, without result, and shortly afterward suffered from measles, but recovered from the acute attack only to succumb to a bronchopneumonia.

At the autopsy the ordinary lesions of rickets were discovered and the right femur was found surrounded by a considerable effusion and was enlarged with a somewhat spongy material.

The second presented symptoms very similar in character. It occurred in a child of ten months.

The third case occurred in a child of twenty-eight months. The swelling was found in the left thigh, which was also painful. There was, however, no vomiting, nor diarrhea. The general condition was pretty good, although the skin was pale and the belly was enlarged. There were no subcutaneous hemorrhages. There were, however, other evidences of rickets which were quite marked, such as deformity of the long bones.

The other cases occurred in children aged fifteen months and two years. In one of them an examination by means of the radioscope failed to show any distinct abnormality about the femur, although it was practically impossible to keep the child quiet long enough for a proper radiographic picture to be taken.

In the sixth case, also that of a child of two years, a successful radiographic picture presented a femur apparently perfectly normal, without any deformity or fracture, the X rays passing readily through the effusion. For this reason the radiographic picture was without result.

These cases are, we think, of interest in that they might so readily mislead one into the view that there had been a traumatism, or that an osteomyelitis was developing; or again, that an osteosarcoma or a osteotuberculosis was present. Even advanced syphilitic disease might be thought to be the cause of the lesion. It is only when we remember the studies which have been made by MÖLLER, by BARLOW and by CHEADLE, who so well describe acute rickets manifesting itself in hemorrhagic tendencies, and scorbutus in infants, that such cases would appear to us to be not due to a grave cause, but to a diathetic condition generally known as rhachitis. The sudden onset of the malady might often mislead us into the belief that there had been severe traumatism. As pointed out by BARLOW and others, it is entirely possible for the periosteal

hemorrhage to occur in other parts than the surfaces of the long bones, and in MÖLLER'S cases it occurred in the neighborhood of the orbit. The subperiosteal effusion gave the appearance of great swelling and ecchymosis of the forehead.

HIRSCHPRUNG, who has seen ten cases, found the lesions distributed as follows: On one femur in three cases; on both tibias in two cases; on the left tibia and right humerus, one case; on both tibias and one humerus, one case; on the right scapula, left femur and right tibia, one case; on both tibias and both forearms and extremities, one case; on the right humerus and right forearm in one case.

In the paper by BRUN and RENAULT, which we have quoted, the hemorrhage occurred five times in the femur and once in the humerus. It is a noteworthy fact that these subperiosteal hemorrhages are not usually accompanied by hemorrhages into other organs, but such hemorrhages may occur. In four of HIRSCHPRUNG'S cases there were swelling and redness of the gums, but no ecchymosis, and in the six cases reported by BRUN and RENAULT there were no lesions of the gums. Fever in such cases is usually very moderate and a cure usually results. Pain is also not severe. As the swelling is absorbed the movements of the limb becomes more easily performed and finally recovery takes place. Death is usually very rare, unless there be in association with the attack general purpura, albuminuria or bronchopneumonia.

From a study of their six cases BRUN and RENAULT conclude that the disease is a different one from that which is usually considered as scorbutus or acute rickets. The chief and typic symptom is the subperiosteal hematoma, which is without the accompaniment of other symptoms. The hematoma appears without there being any fracture, complete or incomplete, to the bone, although in rare instances some traumatism may be responsible for it.

Predisposing influences, such as a tendency to hemorrhagic diathesis, or scorbutus, may, of course, lead to the development of such hematomata.

SOME PUZZLING FACTS OF IMMUNITY.

Our knowledge of the causes of disease has unquestionably been greatly enlarged by the bacteriologic investigations of the past fifteen or twenty years, and we are constantly acquiring new information that is of the highest theoretical and practical importance. With the positive data, however, thus gained, there are others the signification of which is a puzzling problem, and that sometimes appear to contradict or overthrow the conclusions deduced from what have appeared to be well established pathologic acquisitions. Thus we find that even the more virulent pathogenic microbes do not always behave in the same way and there still remains a certain degree of indefiniteness in our knowledge of the behavior of any germ disease analogous to if not quite as extensive as that which formerly existed when bacteria were unknown and the causes of contagious and infectious diseases were yet an unsolved mystery. The natural history of these lowest forms of plant life has not been by any means thoroughly worked out, and as pathologists we are perhaps not exactly on the right road to this result. We do not study them as naturalists; our aim is to follow them in their pathologic relations to learn to use their microscopic characters and behavior in cultures for diagnostic purposes, and we do not apply to these investigations the critical observation of the systematic naturalist who studies the life history and development with a taxonomonic skill derived from long experience and sharpened by competition and criticism. The specific characters of a simple rod or dot of matter visible only under a high-powered lens are not very marked or numerous, nor are they very adequately supplemented by their behavior to coloring reagents or in coloring cultures. These facts leave us in a certain condition of uncertainty in regard to many often mooted points and there are at least a few so-called pathogenic bacteria that tried by the ordinary laws of evidence might escape on the ground of a reasonable doubt from conviction for the homicides of which they are accused, and for which according to accepted pathologic usage they are considered entirely responsible.

The bio-chemistry of the products of these organisms is also rich in puzzling problems and the whole subject of immunity is a riddle the solution of which seems still very far in the future, if indeed it is ever to be satisfactorily solved. No generally applicable and satisfactory law of immunity has yet been formulated, or at least the exceptions are too numerous to exactly prove the rule. In a general way we may say perhaps that custom and familiarity with organic or infective toxins seem to breed a pathologic contempt, but this is only partially true. Why scarlatina for example, which was reckoned as a trivial affection in SYDENHAM'S time, should still exist now for years at a time one of the most fatal of children's maladies and then again apparently and without reason taking on a milder type, while always with us in one form or the other, is not very clear, and other similar instances might easily be adduced. We know as little the laws that govern this apparently capricious behavior of pathogenic organisms in the human subject as we know the reasons why certain other warm blooded animals are habitually immune to their maleficent action, so fatal often to our own species.

One of the most striking examples of apparent immunity to an especially virulent pathogenic microbe has been lately reported by two Italian observers, MONTESANO and MONTESSORI, in the *Centralblatt f. Bacteriologie* of December 22, last. They were studying the bacteriologic contents of the cerebro-rachidian

fluid, and made the surprising discovery of the existence of NICOLAIER'S tetanus bacillus in the fluid drawn by lumbar puncture from a paretic dement in the later stages of paresis. According to the report given, the puncture was made with due antiseptic and aseptic precautions, and the immediate injection into a guinea pig of the derived fluid caused death from tetanus in five days. Similar results followed injections from pure and mixed cultures from the fluid.

In order to test the observation, a second lumbar puncture was made four weeks after the first one and the same results were obtained. After the patient's death, which occurred in the natural course of his disorder some weeks later, postmortem cultures of the cerebro-spinal fluid made by MINGAZZINI revealed the same organisms as did the punctures during life, nonvirulent streptococci and tetanus bacilli, together with another form supposed to be *bacillus oleaceus*.

This observation, which we are not justified in discrediting *a priori*, almost completely overturns our generally accepted notions as to the pathogenic virulence of the tetanus bacillus. If an organism that, elaborating its toxin in a distant peripheral wound, can poison the whole central nervous system and render it directly toxic to other individuals, can live and flourish in the cerebro-spinal fluid itself, without apparent injury to its host but still preserving all its virulence for control experiments, we shall have to remodel some of our ideas as to its invariably pathogenic qualities to a very considerable extent. Is it possible to suppose that there is a rival toxin in paresis that immunizes the paretic to that of NICOLAIER'S bacillus? The Italian investigators suggest that the existence of this organism in their patient may have had some connection with the congestive and epileptic attacks, but this seems on the whole a somewhat gratuitous assumption, as the case does not appear to have been especially remarkable in this respect. The cerebro-spinal fluid appears to have furnished here a specially favorable culture medium, with conditions as regards temperature, association with other organisms, etc., altogether suitable to the development of the pathogenic peculiarities of the germ and yet the patient, so far as could be shown, was not materially worse for their presence.

The report, as far as it goes, adds another puzzling fact to the literature of immunity, and one that is not quite as readily disposed of or accounted for as some others of its kind. To the well known facts that men can exist in apparent health with diphtheria bacilli in their throats, pneumococci in the blood, tubercle bacilli constantly in the lungs and digestive tracts, and other pathogenic species distributed throughout the organism, we have now to add, according to this latest evidence, that under certain conditions they can also carry the tetanus bacillus and toxins in their nerve centers, without there producing their characteristic lethal effects. The conclusion from all the data is that immunity is elastic, that we have by no means yet learned its limits and that in the whole subject of poisoning by bacteria and their products there are likely to be revealed many things as yet not dreamed of in our philosophy. To accept this as true does not in any way detract from the importance and value of the genuine acquisition to our knowledge of the pathologic relation of these organisms. The facts of infection and its possibilities and of the means of preventing them are too well established to be overthrown. But it may be that in these anomalous discoveries and observations we may find something yet that will reveal new methods of protection against even those agencies that seem at present most formidable.

SURGERY AS A SPECIALTY.

At present there is a delusive kind of fascination in making surgery a special study. Most of the recent graduates aspire to eminence in this field. The apparent certainty of diagnoses, treatment and results seem so clear and tangible, that the practice is sought for as the shortest road to fame and fortune. In a graduating class of one hundred and forty, sixty expressed their intention of pursuing surgery as a specialty. It is the common observation that among the large number of well trained surgeons, who are also teachers in large cities, few ever attain more than a narrow local reputation. Fewer still ever do any original work, or advance the boundaries of the known. Our readers will recall many very active surgeons who have an immense experience and practice, who have never published a new fact or new method of procedure. They will also recall a number of volumes which are absolutely without any new facts, and in some cases are weaker and more feeble statements of truths already well known. It was a source of wonderment to many persons that a most accomplished surgeon and teacher never contributed a single new fact to surgery, although he wrote well and voluminously. The literal explanation is that surgeons are born not made, and no amount of training and experience can make one who will do original advanced work unless he has some natural fitness for it.

Modern surgery calls more and more for first-class mechanical talent; it calls for natural machinists with a strong mathematical brain, full of resources and capable of using the present means to the fullest extent. Such men are resourceful, inventive and reasoning; their observation and judgment are clear and independent. Every great surgeon would have made a leading mechanic or inventor, or great business operator, and every great surgeon is original in his work although it may be confined to small details. The mere mechanics of surgery may be acquired in a

degree by nearly every one, but a knowledge of the higher mechanics of the chemico-physiologic work of the organism can only be understood by a natural born inventor and mechanic. The dexterity of operating is not comparable with the reason and judgment of when and how to do it. A noted New York surgeon while riding in the country broke a wheel of his carriage; he soon repaired it with such skill that he was able to continue on his journey as if nothing had happened. Another surgeon broke his carriage in the same way and left it, continuing his journey in another vehicle. One had the mechanic sense developed, the other was without it.

Every physician should be able to act in emergency cases, but the man who aspires to be a specialist in this field should have strongly marked inventive genius. This specialty is a very poor field of practice to one who is not especially adapted for it.

Unfortunately in medicine, as in other professions, there are many ill trained and ill adapted persons for the work required, but the aspirant for surgical honors without natural mechanical and surgical capacity, is literally more unfortunate than others.

CORRESPONDENCE.

The Free Medical and Surgical Treatment of the Well-to-do in Michigan University.

ANN ARBOR, MICH., March 2, 1898.

To the Editor:—I do not know what authority you have for the editorial that appeared in your issue of February 26, under the above heading. This editorial contains some truth mixed with much error, and you will please allow me to separate the truth from the error. You state: "Since their establishment, the Clinic and University Hospital at Ann Arbor have, as a rule, treated all who applied. Occasionally a particular professor would object to treating a notoriously rich person, but no rule has been adopted. Moved, doubtless, by the protests of the profession and their own sense of equity, the medical faculty requested the Board of Regents, at a late meeting, to exclude all well-to-do people seeking admission to the university hospital. The Board has the matter under consideration. It is reported in the public press that the majority are opposed to such exclusion of the rich. They hold that the hospital is for teaching students of the Medical Department, and that a millionaire makes just as good a subject for teaching as a pauper; that he pays taxes to the support of the hospital, and so has a right to the free services of the university hospital staff."

The truth of the matter is that in 1883 the Board of Regents adopted a by-law authorizing the faculty to exclude from the hospital and clinic all patients who were able to pay for medical services. I have no doubt that some people have imposed upon the faculty, but this rule has been adhered to as closely as possible and is still in force today. A few months ago, a man known to have a sufficiency of this world's goods to enable him to pay a fair doctor's bill, applied for admission to the hospital. In accordance with the rule already mentioned, he was refused admission. He appealed to the Board of Regents on the ground that he was a tax-payer and helped to support the University and the hospital. The Board of Regents ignored his appeal and refused to make any change in the rule adopted in 1883 and in effect since that time.

In the editorial you speak of a doctor living in western Michigan who for years has been able to keep his cases of cataract only by figuring out the railway fare to and from Ann Arbor and the cost of two weeks board at three dollars per week, and by offering to do the operation for the resulting sum. Please allow me, through your columns, to inform this physician that he can increase his price. The cheapest board in university hospital is $5 per week, and when the individual occupies a room alone, the charge is $9 per week. I am sorry that this physician has been losing, as a result of his figuring out the cost of an operation at the University. Furthermore, if any doctor in the State of Michigan will inform the medical faculty that any individual coming to the hospital is able to pay a reasonable fee for the operation to be performed, such applicant will be refused admission to the hospital. Of course, it is quite impossible for the medical faculty to always ascertain the financial standing of patients applying for admission, but both the faculty and the regents have always endeavored, and I think that I may say always will endeavor, to act for the best interests of the medical profession. It would be very unwise for the Board of Regents to educate and graduate physicians and then take from them the means by which they are to make their living.

Respectfully,

V. C. VAUGHAN, M.D., *Dean.*

"Oxytuberculin."

SAN FRANCISCO, CAL., Feb. 24, 1898.

To the Editor:—In the JOURNAL of February 5 (p. 336) it is noted that the Audiffred Prize of 100,000 francs for the cure of consumption was not granted to me by the French Academy of Medicine on account of not being sufficiently established by experiments upon animals. I was very much surprised to find my name mentioned in this connection at all, as I had neither applied for a prize, nor did I know of its existence. My work, together, with an official translation, had been presented by the minister of foreign affairs to the Academy and to the Pasteur Institute of Paris for investigation, and it is pleasant to me that it was favorably commented upon by the Academy.

It was and is my desire that the doctrine of the curative effect of oxidized toxins should be most skeptically investigated in order that its truth should be established by others as it has been by me. As stated in the presentation to Cooper Medical College (published in the JOURNAL of February 5), I had not entered at all upon the field of animal experimentation, but had limited my work entirely to the clinical and bacteriologic sphere, in both of which the evidence was indubitable. In the JOURNAL of February 19 a Dr. Smith criticises the evidence presented in rather an acrimonious manner. His feeling toward Cooper Medical College may be explained by the fact that he has had an unpleasant correspondence with another member of the faculty, which assumed such a character that Dr. Smith's last letter to the gentleman was returned to him unopened. I am not acquainted with Dr. Smith, who lives in a small village some fifty miles from here, and he certainly knows nothing whatever about my cases. He has had some unpleasantness with a medical gentleman, who is using oxytuberculin with most excellent success, in Santa Clara.

With regard to the cases of cured and improved tuberculosis as stated in my published lecture, I have reported a large number that had been examined before, during and after treatment by various medical men, and the sputum slides were presented in evidence before the investigating committee, who likewise examined my culture experiments in the laboratory from time to time. The hygienic condition of the patients treated were absolutely unchanged, nor were other remedial agencies employed. A number of the cases were treated at our City and

County Hospital, where the conditions are notably unfavorable; so bad, indeed, that the city will shortly be compelled to tear down the buildings and erect new ones. The patients are kept on the poorest possible diet, thirteen cents per day being allowed for feeding. These cases (among them the cured miliary tuberculosis reported), have been watched by physicians and students, so that there can be no doubt of the facts.

I am sorry that any personal feeling should actuate discussion upon so serious a subject as a cure for tuberculosis, for there should be no mud-throwing in the temple of science.

It gives me pleasure to state that a large number of medical men throughout the United States have confirmed my favorable statements, in spite of the fact that most of the cases reported have been far advanced. I have distinctly stated that I made claims for the curative action of oxytuberculin only in the early stages of tuberculosis, where it will certainly be found to be a specific. Respectfully,

433 Geary Street. J. O. HIRSCHFELDER, M.D.

Appendicitis.

NEW YORK CITY, March 1, 1898.

To the Editor:—I will undertake to refute the arguments of any correspondents who maintain that we should not make it a rule to operate upon cases of appendicitis as soon as the diagnosis is made. The matter is one of grave importance because the deaths from appendicitis in the United States alone have been estimated, from safe data, to amount to more than fifty thousand annually. Physicians carry into practice the ideas which they believe to be right, and patients are practically helpless in the matter because they must abide by the decisions of the physicians in whom they have placed confidence. Some physicians are wrong; some are right. The ones who are wrong treat as many patients as the ones who are right. Patients do not know the difference and they do not realize that deaths from appendicitis are usually unnecessary deaths. Most of the physicians who are in the wrong on appendicitis questions are more than willing to be set right, but they are apt to become confused unless they are surrounded by an environment which allows them to take judicial positions, instead of the positions of advocates.

I will be brief in my part of discussions, and correspondents can state their points briefly, so that not much space will be required in the JOURNAL. The editor can finally sum up the evidence and can render an important decision upon the subject which directly involves the lives of thousands of individuals.

My proposition is that we must make it a rule to subject our appendicitis patients to operation as soon as a diagnosis has been made. The reasons for my proposition are:

1. No physician will ever be able to prejudicate upon the extent of bacterial ravages in any given case of appendicitis.

2. If we wait to see whether a mild case is to remain a mild case, the cases that are not mild become complicated cases before operation is done and we then have an unnecessary death rate, an unnecessary suffering rate, an unnecessary loss of time rate.

3. Operations properly performed at the outset of infective appendicitis have a smaller loss of time rate, a smaller suffering rate and a smaller death rate than can be given by any sort of medical treatment.

4. Operations performed properly by the surgeon when bacteria are causing progressive destruction of tissues outside of the appendix, are less dangerous than the operations that the bacteria perform.

5. Operations performed properly when patients are apparently convalescing from acute appendicitis, avoid the surprises that appear in the form of infective phlebitis, portal embolism and other metastatic complications which are so often observed by those of us who are engaged in appendicitis work.

6. Operations performed properly, in the interval between attacks of appendicitis, give results similar to those performed in the early infection stage.

I believe that it will be an easy matter to refute any arguments to the contrary of my proposition, but I would like very much to have the matter discussed very promptly because patients are hourly dying unnecessarily from appendicitis, and and it is high time that a preventable death rate be prevented.

49 West Thirty-ninth St. ROBERT T. MORRIS, M.D.

Staphylococcus Infection Not Tuberculosis.

OCONOMOWOC, WIS., Feb. 28, 1898.

To the Editor:—Miss B. applied for treatment at Sanatorium Waldheim, Nov. 21, 1897, on account of a hacking cough, bloody expectoration, general emaciation and night sweats. The patient is single, a servant, 21 years of age. Both parents are dead; father died of tuberculosis; cause of mother's death unknown. Patient says she has always been well up to May, 1897, when she took a severe cold, causing a cough which lasted through the summer and increased toward autumn. She weighs 104 pounds, is anemic, cheeks slightly flushed and gives the impression of one in the second stage of tuberculosis. She coughs mostly toward night, expectorates (with difficulty) a small amount of blood-stained sputum and often vomits after a severe attack of coughing. She has anorexia, night sweats, and does not sleep well. Expansion of chest is fair, with slight dulness over both apices, harsh breathing and some hoarseness. Pulse 100 and an evening temperature of 100 to 101 degrees. I had not much doubt that the case was one of tuberculosis and that tubercle bacilli would be found in the sputum.

A tonic mixture of muriatic acid, quinin, etc., was prescribed to create an appetite and improve digestion, cold packs ordered to be given late in the afternoon daily and the diet was strictly attended to, but the patient's condition, especially the cough, grew rather worse during the first week. In the meantime Dr. Folsom made several microscopic examinations of the sputum without finding any tubercle bacilli, only staphylococci and a few other bacteria being found. A larger quantity of sputum was now collected and centrifuged, after which we obtained several slides of almost a pure culture of staphylococci in endless numbers, but not tubercle bacilli. The cold packs, a yet more nourishing and substantial diet, and the tonic mixture were continued, and in addition, general massage and moderate exercise ordered. There was given besides this, alternate inhalations of a 1 per cent. solution of argenti lactas and a 5 per cent. solution of guaiacol; the first solution A. M. and the last P. M., for five minutes by means of a multiple comminutor (in my mind the only inhaler which is efficacious). Soon the improvement in the condition of the patient was apparent. At the end of the second week she had very little evening temperature, had a better appetite, complained much less and had gained three pounds in weight.

The improvement continued uninterrupted until the end of the fourth week when she was discharged practically well. Had no cough nor expectoration, natural respiratory murmur, no temperature, a normal pulse and general feeling of well being. Her weight when discharged was 114 pounds. She has reported a few times since, always being well and gaining in weight, weighing now over 120 pounds.

I wish to put this case on record as an example of the importance of a microscopic examination of the sputum of such patients. It is quite possible, had the ulcerative bronchitis and staphylococcus infection not been detected, that this patient would have eventually, and probably during the winter, succumbed, with or without an additional infection of the tubercle bacillus, which later would have found a properly prepared soil for its implantation. J. H. VOJE, M.D.

The Manufacture of Antitoxins.

CHICAGO, ILL., March 2, 1898.

To the Editor:—I have just read the paragraph entitled "The New York City Board of Health" that appeared on page 506 of your issue of February 26.

Permit me to point out that ever since January, 1895, diphtheria antitoxin . . . could have been purchased in New York City at a cost never exceeding $2 per vial of 10 c.c., representing 1500 units, or approximately $6 per ounce. The pretension, therefore, of the Board of Health, that the cost of diphtheria antitoxin at the drug store was $12 per ounce, and therefore excessive, is absolutely without foundation. Please note that diphtheria antitoxin . . . is recognized all over the country as a standard product. Practically none has been sold for consumption in New York City itself owing to the competition of the Board of Health. But that does not alter the fact that our diphtheria antitoxin has always been obtainable in New York City at the price named, and in fresh and serviceable condition. The New York City Board of Health must be in a very precarious condition to resort to such unfortunate misstatements in its attempt to retain its power to manufacture medicinal or other preparations in competition with private parties. I do not believe that the spirit of paternalism which now pervades certain public bodies is a correct echo of public sentiment, and appearances indicate that it will be nipped in the bud. A sign of the times is the reduction by the Senate, to $25,000, of the appropriation of $100,000 applied for by the Department of Agriculture for the manufacture and supply of hog cholera vaccine, the reduced appropriation being made with the stipulation that the serum manufactured should be utilized exclusively for official experiments, and none of it should be gratuitously distributed. We enclose herewith copy of an extract taken from the *Oil, Paint and Drug Reporter* of New York City, which may possibly be of interest to you.

Yours very truly, HAROLD SORBY,
Manager Pasteur Vaccine Co.

THE SENATE DISAPPROVES THE DISTRIBUTION OF SERUM.

Readers of the *Reporter* will be pleased to learn that the strong protests made by the manufacturers of pharmaceutic preparations and others against the proposition of the Secretary of Agriculture to spend $100,000 in the manufacture and gratuitous distribution of 2,000,000 doses of hog serum has been disapproved by the Senate. Unless the House fails to agree with the Senate's action, which is not likely, this effort at paternalism will come to naught.

The Secretary of Agriculture has been making a series of experiments through the Bureau of Animal Industry which has resulted in demonstrating to the satisfaction of the experts that a serum can be produced which is very effective against hog cholera. The Bureau officials became so enthusiastic over the results achieved that they induced the Secretary to appear before the Senate Committee on Appropriations, and request an appropriation of $100,000 for the manufacture of serum to be gratuitously distributed through the medium of the agricultural experiment stations and colleges. The editorial comment upon this action which appeared in the *Reporter* last week greatly stimulated protests against this action, and such a flood of remonstrances reached the chairman of the committee and his colleagues in the Senate as to convince the framers of the agricultural appropriation bill that public sentiment was strongly opposed to the Secretary's project. After several conferences Senator Allison, who is chairman of the Appropriation Committee, decided to reduce the sum requested by the Secretary to $25,000, and to concede it only with the distinct understanding that but a limited quantity of the serum should be manufactured and that it should be utilized exclusively for official experiments and none of it should be gratuitously distributed.

The officials of the Bureau of Animal Industry are greatly disappointed at the failure of their plan to distribute the serum widely, but Senator Allison is confident that the real function of the Bureau, which is to determine by experiment the efficacy of remedies for animal diseases, will not be circumscribed as the result of the reduction, while at the same time the Department will be relieved of the criticisms which have been directed against a proposed invasion of a legitimate field of private enterprise.

The victory of the trade is of far greater significance than the mere prevention of the gratuitous distribution of hog serum. It is in effect a recognition on the part of the Senate of the impropriety of the Government's entering into competition with private firms in any line of industry, and there is no doubt that the precedent thus established will be of great value to the business community hereafter.—(From *Oil, Paint and Drug Reporter*, Feb. 14, 1898.)

Opinions Differ.

MINNEAPOLIS, MINN., Feb. 21, 1898.

To the Editor:—I notice in the JOURNAL of January 15 what I consider a very unfair criticism of the excellent work on surgical diagnosis and treatment by J. W. MacDonald, M.D.

1. The reviewer states that "the book might be compressed into two-thirds its size" and that "the author has lost the art of condensation." In the face of the fact that the author is a speaker and a writer of rare ability both on medical and other subjects, the statement raises a question in the mind of the reader as to whether the assertion is not biased by selfish motives.

2. That "it is foggy in regard to tumors." If there is any fog about tumors it must exist in the mind of the reviewer, as many able authors entertain the same views as set forth in this work.

3. That "gas and the electric headlight has superseded the student's lamp as a means of examining the larynx." The idea of the student's lamp may appear ridiculous to a resident of Chicago but there are doctors outside of the Windy City who are not prejudiced by the lantern and cow who are where electricity and gas are not obtainable.

4. The typographic error on page 579 in regard to the word Adams is admitted. The author is not the only one suffering from a "deviated" letter, as I notice the reviewer has a new way of spelling W. B. Saunders.

A MEMBER OF THE ASSOCIATION.

A Prescription Corrected.

PHILADELPHIA, PA., March 3, 1898.

To the Editor:—By an inadvertency an error has found its way into the report of my clinical lecture published in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION for Feb. 26, 1898. On page 464, in the second column, the second prescription should read as follows:

℞ Pepsini glyceriti . . . . . ℥v. 147.85
Acidi hydrochlorici diluti. . . . . m. cc. 12.32
Sig.—Two teaspoonfuls after each meal.

In reading the proof furnished me that portion which contained the above prescription was missing. I have been informed by your printer that two galley slips had stuck together and that the prescription, together with the adjoining portion of text was concealed. JOHN V. SHOEMAKER, M.D.

Wants Statistics of Homeopathy.

CHICAGO, March 1, 1898.

To the Editor:—It would be interesting and valuable to know, according to reliable statistics, the number of homeopathic physicians, colleges and hospitals in the United States at the present time as compared to the number ten, twenty and thirty years ago.

If it seems wise to the editor, I think a statement of such statistics would be very generally appreciated.

Very respectfully, R. S. PORTER, M.D.

ASSOCIATION NEWS.

Prospective Attendance at the Denver Meeting.

DENVER, COL., Feb. 28, 1898.

To the Editor:—I send you this communication in the way of a preliminary report relative to the prospective attendance

at the forthcoming Denver Meeting, thinking that it may be of interest to the members of the AMERICAN MEDICAL ASSOCIATION. As Chairman of the Local Committee upon State Medical Societies, I have opened a correspondence with the officers of all the State societies with a view to awakening a degree of interest, thereby securing as large and enthusiastic delegations as possible, and to ascertaining in reply an approximate estimate of the probable attendance from each State. The answers thus far received have been, upon the whole, extremely gratifying, and from the assurances contained indicate the development of a decided general interest with a growing spirit of enthusiasm relative to the next annual meeting. The exhibition of this feeling may be reasonably expected to result in a large and representative gathering of medical men in Denver next June. That the meeting will be a brilliant success in point of numbers and character of attendance is already practically assured by the expressions received from all parts of the country. The larger number of replies have been necessarily of a purely general nature. The fact that a majority of the State societies do not hold their annual meetings until April or May renders it impossible for their officers to form any adequate estimate as to the size of the delegations from the respective States. In but few instances have delegates been appointed as yet. Those whose names I have been able to secure have been corresponded with. Some have replied, signifying their intention to come and bring others. Nearly all the officers of the various State societies are taking energetic measures to create an active interest among their fellows, and predict in behalf of their local organizations a generous representation. The names of the many delegates will be furnished me as soon as the appointments have been made, and they will be communicated at once. Thus far general estimates have been received from thirteen States, representing a total of 618. While from the remaining States no official information has been received upon which to base provisional opinions as to the relative size of delegations, still sufficient data of a general nature have been secured to justify the conclusion that the estimate quoted for the thirteen States will be a fair proportionate index of the whole. From this it seems safe to assume that the attendance at the next meeting will equal that of any previous year. If the voluntary expressions of those in authority in the various States may be considered as reflecting to any degree the sentiments of the individual members it is apparent that a strong feeling of interest and hearty enthusiasm is already aroused. Did space permit I would quote brief extracts from the many letters received, evincing the most earnest sympathy and active co-operation. The earnest work undertaken in some of the societies should stimulate all to renewed efforts toward insuring the success of the next annual meeting. Very sincerely yours,

S. G. BONNEY, M.D.

NECROLOGY.

THOMAS B. BAILEY, M.D., appointed to the U. S. Navy from New York in 1889, and made a Passed Assistant Surgeon in 1892, died in Washington, D. C., February 24, aged 34 years. He had been on the China Station but was lately ordered home and to duty at the Washington Navy Yard.

WILLIAM S. TORREY, M.D., New York University, 1884, died in Brooklyn, N. Y., after a long illness, in his 36th year, on March 4. His remains were interred at his former home in Honesdale, Pa.

JOHN C. SHERMAN, M.D., in charge of the U. S. Marine Hospital at Ogdensburg, N. Y., died in New York city March 2, aged 48 years.

DEATHS ABROAD.—Dr. Jennie Taylor Gordon, wife of a missionary in Africa and niece of Bishop William Taylor of the M. E. Church, died at Malange Angola, West Africa, December 29. She was known as "Dr. Jennie" in the foreign missions and during her long service abroad acquired an enviable reputation for skill. Her parents are residents of Mechanicsburg, Pa.

JAMES J. STEPHENS, M.D., College of Physicians and Surgeons, New York, 1846, died from apoplexy at his home in Tappan, N. Y., March 3, in his 75th year. He was born in New York city but came to Tappan forty-three years ago and for forty of these he was owner of the Major André prison house, from which he religiously excluded the public. After this structure was blown down in part on November 2 last, the next owner rebuilt it and made its inspection free. Many stories are told of Dr. Stephens' skill and eccentricity.

WILEY H. WILSON, M.D., Lake Geneva, Wis., February 27, of cerebral hemorrhage. He was born at La Grange, Ga., Jan. 6, 1842, and when the war broke out he was a student at the University of Athens, which he left at the age of 19 to join the Southern army in West Virginia, where he served on General Rhodes' staff in Stonewall Jackson's brigade. He was with General Lee at the surrender at Appomattox courthouse. After the war he studied medicine in Louisville, Ky. In 1880 he moved to Chicago, where he practiced his profession five years, and then moved to Lake Geneva.

ROBERT A. WHEATON, M.D., St. Paul, Minn., February 25, aged 30 years. The Doctor was graduated from Harvard in 1889, clinical instructor in surgery at the University of Minnesota, a member of the AMERICAN MEDICAL ASSOCIATION, the Minnesota State Medical Society, Massachusetts Medical Society and Association of Military Surgeons of the National Guard.

THOMAS JEFFERSON MOORE, M.D., Richmond, Va., February 24, aged 58 years. Dr. Moore was a native of North Carolina, served as a member of the Senate of that State, was for four years a member of the Virginia State Medical Examining Board, a member of the AMERICAN MEDICAL ASSOCIATION and honorary member of the North Carolina Medical Society, and filled the chair of clinical medicine in the University College of Medicine at Richmond.

FRANCIS G. HENRY, M.D., Kansas City, Mo., February 26. He was born in Paris, Ky., in 1828, and about 1860 moved to Missouri. He entered the Confederate army and accompanied Price in his first raid. He also served under General Shelby. During Governor Crittenden's administration, Dr. Henry was appointed superintendent of the asylum for criminal insane at Fulton, Mo., he being the first to hold that position.

JOHN PARKER MAYNARD, M.D., Harvard, 1848, of Dedham, Mass., February 26, aged 72 years. He was born in Boston, Mass., was a graduate of Yale and in 1847 the discoverer of collodion, which he soon utilized in surgery.

JOHN YALE, M.D., Yale 1841, died in Beloit, Kan., February 26. He was a descendant of the founder of Yale College and born in New Hartford, Conn., April 2, 1820. Most of his life was passed in Ware, Mass.

SAMUEL AUGDEN HILLS, M.D., Yale 1846, died at his residence in New York city after a long illness, February 26, aged 76 years. During his professional life he was an apothecary, a coroner, lumber merchant and a realty investor, having accumulated considerable wealth.

A. RUSSELL STRACHAN, M.D., died at the St. Cloud Hotel, New York city, March 1, as the result of injuries received a week before in an effort to save a woman and child from being run over by a Broadway cable car. Both were rescued. He however thought but little of his hurt and did not immediately take to his bed. He was born in Scotland, was graduated from the Victoria University, Ontario, 1861, and long ago was connected with Luke's Hospital New York. An obituary note credits him with being the author of various medical works and of many magazine contributions.

CLARENCE LEWIS, M.D., aged 24 years died in San Francisco,

Cal., February 20.——W. H. Hill, M.D., South Onandago, N. Y., February 26.——William Coe Holmes, M.D., College of Physicians and Surgeons, New York, 1880, died in Waterbury, Conn., February 24.——Hiram Lake, M.D., Holliston, Mass., aged 79 years.——W. H. Parkhurst, M.D., Dunbar, Neb., February 25.——Frank W. Root, M.D., Kent, Ohio, February 26.——Samuel D. Seelye, M.D., Montgomery, Ala., February 23.——Alexander Fulton, M.D., Philadelphia, March 1, aged 43 years.

PUBLIC HEALTH.

Proposed "Practical" Medical Legislation for New York State.—Legislation intended to build up the profession's "practical interest" in New York, will not be wanting this year. Free vaccination is to be opposed as inimic to the best (financial) welfare of young medical men. The production of diphtheria antitoxin by official laboratories and its administration free of charge by boards of health, also the attempt officially to repress that "filth disease, pulmonary phthisis," will be legislated against. If the promoters of the "practical interests" bill will also attack the bacterial diagnosis of diphtheria, tuberculosis and typhoid fever in our official laboratories, they will have well done their part toward closing up those branches of work that have hitherto been regarded as objects of congratulation by our more wide-awake boards of health. When New York City began the work which is now proposed to abolish, antitoxin was selling for $12, but in consequence of the Health Board's production it is now sold for $1.50. The city's bacteriologic bureau has attracted attention in Berlin, Vienna, England and Scotland, where its method has been copied, as well as in several American cities. An appropriation of $30,000 a year is made for it by the city, and as much more is realized by the sale of antitoxin and vaccine, which is said to be the purest made in this country. It supplies the city of Chicago. The receipts are applied to the work of the bureau. Last year 9641 visits were made to tuberculous patients, 5000 to disinfect rooms in which patients had died, and 4641 to teach patients not to communicate their disease. There were 968 persons treated with 1400 injections of lymph in 1896, and 1214 were immunized. The number of persons treated last year was 1174, to whom 1600 injections were given and 1714 persons were immunized. Much of this work was done among the poor. If this newly proposed legislation is carried out there must be a very general closing up of important lines of laboratory work. Will the best interests of the medical profession be advanced thereby? One effect we can foresee as possible is that there may be attracted into the medical student class numbers of young men who are looking out for a good "practical" money-making profession; and if this effect shall be produced, some of these legislation promoters may have occasion for sorrow. Is "practical" legislation a two-edged sword?

MISCELLANY.

Carbolized Camphor is strongly recommended for suppurating and inflammatory processes by Ordin, a Russian confrère.—*Cbl. f. Chir.*, November 13.

Surgical Intervention in Perforating Peritonitis from Typhoid Fever.—Monod reports a case in which he performed laparotomy, but the patient died three days later, as the peritonitis continued its ravages. He has had five recover out of thirty-two operated on in these conditions, and considers an operation indicated and justified as a last resort. Routier, Brun and Lejars have each a record of one or two cases thus treated, but none recovered.—*Cbl. f. Chir.*, January 22.

Permeability of the Placenta.—Recent tests with methylene blue to determine the permeability of the placenta, similar to the tests with the kidneys, resulted in the appearance of the blue in the urine of the infant by the end of an hour and a half, as the minimum. The tests were made on sixteen maternity cases three minutes to twenty-two hours before the expulsion of the fetus. The blue could not be detected in the milk nor in the amniotic fluid.—*Progrès Méd.*, January 22.

A Peculiar Case of Abnormal Genitalia is related by E. Tornu in the *Anales del Circ. med. Argentino* for November. The vagina and uterus were rudimentary; the former without an opening, and one ovary was absent. Menstruation was accomplished through the bladder although no communication between it and the genitalia could be discovered. During menstruation there was absolute anuria for three days, even during the corresponding periods when the menses failed to appear, as happened occasionally.

Experimentation with Combined Coli Bacillus and Pyogenic Cocci in the Etiology of Gastro-Intestinal Fever.—A. M. Coco asserts as the results of research in this line: 1. That the coli bacilli become virulent in the presence of the pyogenic strepto- or staphylococcus. 2. The coli bacilli alone produce no thermic elevation or merely a slight and momentary rise in temperature. 3. The simultaneous ingestion of the coli bacilli and the pyogenic staphylococcus determines an appreciable elevation of the temperature and rapid loss of weight. 4. Cultures of the coli bacilli and pyogenic strepto- or staphylococcus ingested simultaneously, established an intense gastro-intestinal catarrh.—*Gazetta d. Osp. e d. Clin.*, January 23.

Non-diphtheritic Laryngitis Fibrinosa.—A case is described by A. Rosenberg in *Therap. Woch.* of December 19, in which a fibrinous growth appears constantly on the larynx, the patient, a man of 67, otherwise in good health. It has persisted a year and a half, in spite of treatment of all kinds. The patches require about a week for their appearance, development and final disappearance, when others appear at other points, all tenaciously adherent, the membrane very much inflamed under and around them. Cicatricial growths in the pharynx indicate old syphilitic infection, denied by the patient.

Recurring Appendicitis.—A review of 346 cases of appendicitis treated in the Bathanien Hospital at Berlin shows that in 65 the affection had returned. It recurred once in 37 cases; twice in 10; three times in 6; four times in 1; five times in 1. The interval between the recurrences was one year in 39; two years in 10; three years in 4; four years in 4; five years in 1; seven to ten years in 2, and eight, nine and eleven years in 1. In 5 cases the relapse led to generalized peritonitis. The usual proportion between sexes was observed: 38 children, 211 male adults and 97 female.—*Cbl. f. Chir.*, January 22.

Surgery of the Stomach for Malignant Neoplasms.—C. A. Ewald reports a mortality of 54 to 69 per cent. in sixty-eight operations, although the operative result was faultless in all but three. He considers gastrostomy a kind of euthanasia, but notwithstanding it must be performed for humane, if for no other reasons. He adds in conclusion, that the prognosis is dubious in every case; it is impossible for the surgeon to know the outcome beforehand, even in the most apparently favorable cases; still surgical intervention should be proposed in all cases that indicate it, and the operation should follow with the least possible delay. Lactic acid is no longer considered a specific symptom of gastric carcinoma, as the palpable neoplasm usually precedes it.—*Cbl. f. Chir.*, January 22.

Death from Inhibition.—Cases are known of sudden death from a very slight blow in certain regions of the body, not severe enough to produce even an ecchymosis. Brown-Séquard explains them by inhibition, arresting by reflex action the heart and the circulation, the exact reverse of the co-ordinated phenomena of reflex motor excitation of which the sneeze is the type. Three phenomena are characteristic of death from

this cause: The absence of agony, the *extreme silence*, no convulsions or foam on the lips; there is no change in the color of the blood, as in asphyxia, and the temperature falls rapidly. But the expert is seldom summoned until these characteristics have passed away, and such cases are apt to be puzzling. The impressionability varies with the age, sex and morbid circumstances. Children are more subject to death from inhibition than adults, and women than men.—*Jour. de Méd. de Paris*, December 19.

Dissecting Aneurysm of the Heart.—A. Vestberg has collected sixty observations of aneurysm of the heart, corresponding to the conception of dissecting aneurysm of the vessels. In most cases it was consecutive to an endocarditis, abscess or rupture of an ordinary aneurysm. In two, to traumatism. The interparietal form is most common. There is no independent wall at first, but a secondary wall forms later, in chronic cases. Rupture occurred in more than half of the cases, but only once outward. In two cases the valves of the aorta were involved; in two others the septal fold of the tricuspid valve, and in four the anterior mitral fold. His communication in the *Nordiskt Med. Ark.* is copiously illustrated.—January 10.

Resection of Renal Tissue for Diagnostic Purposes.—Macroscopic examination of the kidney is not sufficient in many cases to disclose the true nature of an affection, and conservative treatment is much promoted by supplementing the usual means of diagnosing with the resection of a small piece of the parenchyma. Several convincing observations related by O. Bloch confirm the wisdom of the procedure and its absolute innocuousness. He even asserts that the mere opening up of the kidney, freeing adherences, aspirating fluids, etc., will frequently cure existing troubles, and the resection of a thin slice will confirm the non-malignant character, although to the eye the organ seemed seriously involved and removal urgently indicated. The urine afterward returns to normal with astonishing rapidity. The value to histology of thus obtaining sections of living tissue for study is apparent.—*Nordiskt Méd. Ark.*, January 10; eight cases.

The Infestation of Dwellings by Fleas.—The Department of Agriculture, in a recent entomologic circular of information says that it is the *pulex serraticeps*, not the *pulex irritans*, that is more frequently concerned in the infestation of domiciles. As to the removal of the pest the following advice is given: "Every house where a pet dog or cat is kept may become seriously infested with fleas if the proper conditions of moisture and freedom from disturbance exist. Infestation, however, is not likely to occur if the (bare) floors can be frequently and thoroughly swept. When an outbreak of fleas comes, however, the easiest remedy to apply is a free sprinkling of pyrethrum powder in the infested rooms. This failing, benzine may be tried, a thorough spraying of carpets and floors being undertaken with the exercise of due precaution in seeing that no light or fires are in the house at the time of the application, or for some hours afterward. Finally, if the plague is not thus abated, all floor coverings must be removed and the floors washed with hot soap-sods. This is a useful precaution to take in any house which it is proposed to close for the summer, since even a thorough sweeping may leave behind some few flea eggs from which an all-pervading swarm may develop before the house is reopened."

A Vesicant Acarus.—Meguin (*Bulletin de l'Acad. de Méd.*) dwells on the remarkable disease observed in China among the poor, who eat a kind of purslane or arroche (atriplex). The skin on exposed parts becomes edematous and itches severely. The symptom has been attributed to an acarus which is found on this kind of atriplex. But the parasite has not been actually found in any patient. Meguin, however, believes that the theory about the Chinese disease is correct, for in Mauritius there is an acarus known as *holothyrus coccinella* (Gervais), which abounds in moss in the cold and damp highlands of the island. Poultry can not be reared in those districts, as the acarus causes fatal pharyngitis. Native children suffer in the same manner. Some specimens of holothyrus were sent to Meguin. They were all dead. He fixed them by strapping to his forearm. In a few hours they set up severe irritation, edema and prurigo. The live holothyrus must be a powerful irritant to mucous membranes. It measures under one-fifth of an inch in length.—*British Medical Journal.*

Improved Sutures in Operations for Inguinal Hernia.—Prof. S. Duplay and M. Cazin, both of the Faculty of Medicine at Paris, dispense with buried sutures in the Bassini and other operations for inguinal hernia by using temporary silver wires. The under row of three U-shaped stitches brings the deep tissues together, beneath the spermatic cord. The ends are twisted tight over a roll of gauze. When coaptation is perfect the cord is replaced and seven wires passed through the superficial tissues, reconstituting the anterior wall of the canal, suturing the pillars and closing the cutaneous wound at the same time, with a few additional stitches of the skin if necessary, with very fine wire. The cord has ample space between the two layers of stitches. The superficial threads are removed in seven to eight days. The lower row is not disturbed for twelve to fifteen, and they have been left for eighteen to twenty days without inconvenience. The split ends of the sac are tied together beforehand, to assist in reducing the hernia, by the method described in the JOURNAL (Vol. 27, page 1348). They consider silver wire much better for these operations than catgut, which is absorbed too rapidly to ensure solidity, and their tests with kangaroo tail tendons, showed that they also were absorbed in fifteen days.—*Semaine Méd.*, December 22.

Medical Representation in Congress.—The editor of the *Texas Medical News* would have a better and fuller medical representation at Washington, and to that end nominates Dr. Stanford E. Chaillé of New Orleans for duty in Congress. He says that his nominee's long experience in matters sanitary will be timely in the pending and impending discussions regarding quarantine and national organization, for in order to secure the benefits to be derived from a department of public health for the United States Government and State health boards, legislation is indispensable, and the needed legislation can never be secured unless the medical profession is represented in the United States Congress and State legislatures by able members of the profession. These great reforms can never be accomplished in any other way, and to this end we earnestly suggest, as a beginning, to the people of New Orleans and Louisiana, the name of Stanford E. Chaillé as a suitable member for Congress from the district of his residence. In sending Dr. Chaillé to Congress the people of his district would not only confer a benefit upon themselves, but, in our judgment, upon the entire people of the United States.

Surgical Intervention in Purulent Peritonitis.—Korte has grouped all the cases of generalised peritonitis from internal causes observed since 1890, excluding all traumatic, gangrenous hernia and other cases in which the peritonitis was secondary to general infection. They number ninety-nine. Seventy-one were operated on, with twenty-five recoveries (32.5 per cent.), and forty-six deaths. Twenty-eight were not operated on; six recovered (21.4 per cent.) and twenty-two died. Although these results are modest, still those who recovered would have undoubtedly succumbed without the intervention, which aims to remove the peritoneal exudate, thus preventing the ulterior absorption of the toxins and freeing the intestines, the abnormal walls and especially the diaphragm, from the extreme pressure. The best results were attained in perforations of the appendix (33 per cent. cured). The earlier the operation

the brighter the prospects of success. If twenty-four hours have elapsed since perforation of the alimentary canal, the chances are reduced to the minimum. The exudate is diagnosed by percussion, palpation in various positions and rectal and vaginal examination. Exploratory punctures are dangerous and should never be attempted unless prepared to follow immediately with the laparotomy. He notes that as the case advances to a fatal termination the general symptoms overshadow the local, and as long as the latter preponderate, no matter how severe, there is still hope.—*Mitth. a. d. Grenzb. d. Med. u. Chir., ii, 1, 2.*

Sanitation is the Chief Glory of Modern Times.—Dr. L. Parkes of London has lately given a discourse upon the progress of sanitary operations in the last half century. He gave it as his opinion that it is not too much to say that the chief glory of the closing epoch has been the growth of exact knowledge as to the causes of many of the diseases and adoption of measures, State, municipal and private, that science had indicated as necessary to counteract the diseases and the disease tendencies by which the community was continually assailed. At the present time public health acts and sanitary authorities have revolutionized the lives of the poor. The mortality from smallpox has diminished by 96 per cent. in 1891-95 as compared with the mortality in 1838-42. In the same period the deaths from fever have declined 82 per cent., while since 1871-75 there has been a decrease of 95 per cent. in the mortality from typhus and of 60 per cent from enteric fever. Since 1861-65 the mortality from scarlet fever has fallen 81 per cent., although that from diphtheria has risen in recent years and is now very much the same as it was thirty years ago. In phthisis the mortality has fallen 46 per cent. though it is still high. Cancerous diseases, on the other hand, appear to have increased, nor is the whole of the increase, Dr. Parkes considered, due to more precise diagnosis. Ague, which was extremely prevalent, has been nearly eradicated. Only those who died from acute alcoholism were returned as having died from the effects of drink, yet, notwithstanding the more temperate habits of the people, the deaths from this cause were as numerous as they were thirty years ago. The general effect of improvement in sanitation is that 600,000 persons reach the age of 21 years, who sixty years ago would have died.

Not Held to Standard of Infallibility.—The law does not require of a physician or surgeon absolute accuracy, either in his practice or his judgment. The law does not hold physicians and surgeons to the standard of infallibility, nor does it require of them the utmost degree of care or skill of which the human mind is capable, but that, while in the practice of their vocation, they shall exercise that degree of knowledge and skill ordinarily possessed by members of their profession. This is the declaration made by the supreme court of Nebraska, in the case of Van Skike vs. Potter, December, 1897, which was an action brought to recover damages from Drs. Potter and Reynolds for alleged negligent treatment of a knee-cap fractured in a baseball game. The trial resulted in a verdict and judgment in favor of the doctors, which the supreme court affirms. The evidence, the supreme court holds, sustained the finding of the jury that the defendants did not contract with the plaintiff to effect for him a permanent cure, and did not contract to visit and treat him until he was cured. As to whether they had pursued the proper method in setting his knee cap, by wiring the fractured portions together, the supreme court says, "as is usual, the experts for the plaintiff agreed with his contention, and the experts on behalf of the defendants agreed with their contention," and it decides that they were not guilty of negligence in the treatment given the plaintiff, including the leaving the point of a drill in the bone, when broken off in drilling a hole in one of the pieces of the knee-cap, owing to a movement of the plaintiff's leg. Upon the issue, made by the pleadings, as to whether the defendants agreed to visit and treat the plaintiff until he recovered, the court holds that they were properly permitted to testify that at the date of their last visit to him, they informed him that they should not return unless they should be requested so to do. It also holds that in such a case, text-books on surgery, though standard authority on the subject, could not be read to the jury as independent evidence of the opinions and theories therein expressed or advocated.

Conjugal Diabetes.—Dr. Schram, before the Harvard Medical Society of New York City, is reported in *Medical News*, January 1, as saying that in a series of 5,000 cases Boisumeau found 1.8 per cent. of conjugal diabetes. Most investigators agree that the development of the disease in both husband and wife is not accidental, but that an etiologic relation exists. The facts thus far published do not shed much light on the two theories of causation now held, viz: That the ordinarily accepted causes of diabetes are active in both husband and wife, and that the disease is contagious. Cases have been reported with almost conclusive evidence of contagion, but the nature of the contagium and how it is conveyed are mysteries. In regard to the doubt which has been expressed as to contagion in diabetes, I would like to mention some recently reported cases in which laundresses apparently contracted the disease by washing the clothing of diabetes. However, the question is still an open one. The authorities differ very much, but the French school is inclined to believe that diabetes is contagious. Dr. Schram reports the case of a woman, aged 76 years. She first came under observation seven years ago, and had been married forty-eight years. Sugar was constantly found in the urine in amounts varying from less than 1 to 4 per cent. She refused to submit to rigorous diet in July, 1897, in diabetic coma. Thirst and pruritus had been the most troublesome symptoms. An extensive ischiorectal abscess developed two weeks before death. One week later the husband's urine was found to contain 3 per cent. of sugar. Symptoms of the disease sufficient to attract his attention antedated his wife's death by about two weeks. Sugar is now found in his urine in abundance, but disappears for a time under diet and opium. He is now 76 years of age and apparently contracted the disease seven years after it was first discovered in the wife, and after nearly fifty-three years of married life. The couple had eleven children, seven of whom are alive and well.

Chief Surgeon Has no Implied Authority to Employ Assistants.—In the absence of expressed authority, there is no implied authority for the chief surgeon to employ assistants. So holds the supreme court of Michigan, in Burke against the Chicago and West Michigan Railway Company, Nov. 17, 1897. This was an action brought to recover for medical attendance upon a former employe of the defendant company named Radke, who had received injuries while working on one of its trains. After the employe received his injuries he was first treated by a local assistant surgeon of the company; but on a certain occasion he was taken worse, sent for that assistant, who could not be found, and then the plaintiff was summoned and continued to treat the patient for some weeks. During this time the chief surgeon of the railway company wrote to the plaintiff: "I am informed that you are now attending Herman Radke, an employe of the C. & W. M. Ry. Co., who was injured a few weeks ago. Will you be kind enough to inform me as to his present condition? Has he completely recovered? I would like a history of the case since you took charge of it. Please send your bill for services, itemized, to me if you are through with the case." This letter, the supreme court declares, contains no express authority to attend Radke at the expense of the company. Moreover, it intimates that the company acted prudently in limiting the chief surgeon's authority

in respect to the treatment of injured employes to the employment of regularly appointed local surgeons of the company under contract relations, except in emergencies for temporary services only, because the plaintiff first rendered his bill against Radke at $2 for reducing fracture and the subsequent items at $1 each, but charged the railway company at $50 for the first item and $3 for each subsequent visit. But on its merits the court holds that a verdict should have been directed for the defendant in this case.

Are Second Attacks of Measles Infectious?—Dr. A. Kebbell writes to the London *Lancet* regarding the question above written, saying: "My attention was first drawn to the subject by a case which occurred in my practice some fourteen years ago. *Case 1.*—A middle-aged farmer with a large family of children had what was diagnosed as a well-marked attack of measles. I quite expected that some others of the family would be attacked, but to my surprise no one else took it, and I concluded that I had made a wrong diagnosis. I am not certain that he had had it before, but from the cases I have seen since I am of the opinion that he had. *Case 2.*—In 1895 a farmer, middle-aged, had a well-marked attack of measles. He had had measles before. He had five children and, his being a small house, no effort was made to isolate the case, but no other member of the family took it. In 1896 there was an epidemic of measles in the village; all his five children were attacked, and he again took it in a severe form. *Case 3.*—A boy, aged 14 years, was ill in the same epidemic with his second attack and a child, aged 6 years, played with him, but did not take it; but six weeks after she contracted it from another child. *Case 4.*—This occurred in my practice in September last. A laborer had a well-marked second attack of measles. He had five children; two of them had not had measles, and although no extra precautions were taken, neither was attacked. I am not aware that this subject has been noticed before, but if my surmise should be correct, it would be very satisfactory to be able to assure patients with second attacks that no isolation would be necessary, and that there would be no risk to any other persons.

Arthritic Basis of Basedow's Disease.—Vigouroux asserts that an arthritic tendency is the general condition, and hepatic insufficiency the immediate cause of Basedow's disease. This assumption explains the arthritic manifestations which so frequently accompany the affection and maintain their independent course. Infective diseases also prepare the soil. Certain symptoms hitherto attributed to the disease, such as alterations in the myocardium and valves should be ascribed to the pre-existing diathesis. This conception that it is a diathesic intoxication with its principal localization in the thyroid gland, on which is superposed the thyroid intoxication, indicates general treatment, hygienic, etc., with special regard to the varying and opposite nutrition shown by the urine, alternating between the arthritic and the opposite characteristics of exaggerated dissimilation. The general treatment is supplemented by faradization of the gland and carotid arteries, including contractility, and reducing both gland and arteries to normal size. With frequent repetition an improvement is obtained equivalent to cure. He considers surgical intervention irrational, dangerous, useless and only allowable as a last resort when all medical means have been tried in vain. Poncet of Lyons, also denounces surgical intervention now, after having advocated it for a while.—*Bull. de l'Acad. de Méd.*, January 11.

Proceedings of the Mobile Convention. The Committee on Publication appointed by the Chairman of the Quarantine Convention of the South Atlantic and Gulf States, submits the following report:

Copies of the resolution offered by the Hon. R. H. Clarke of Alabama, and unanimously adopted by the Convention, together with copies of all other resolutions germane thereto, were forwarded to each Senator and Representative in Congress, to all members of the Convention and to all persons invited to attend. The cost of printing, stationery, postage, clerk hire, etc., to date, is $25.55, which subtracted from the amount collected, $53.75, leaves $28.20 on hand. From this remainder the expenses of this circular and of further correspondence must be deducted. Manuscripts aggregating 106,000 words have been received for publication, and more are to come. It is estimated that the entire material will make a book of some 350 pages. The lowest estimate for its publication yet received, including binding, wrapping, freight, postage, etc., is, for one edition, $577.50. If 200 members of the Convention, or others interested in quarantine matters, will subscribe for three copies each at one dollar per copy, the amount will pay for the entire work. The book will be unique and valuable. It will contain a mass of information concerning epidemics, quarantines, camps of detention and refuge, management of refugees; management of railway trains, mails and freights during an epidemic; principles and application of disinfection; theory and forms of pratique and health certificates; proper methods of establishing local, State, and interstate quarantines; and the broad legal principles upon which all these measures must be founded to be lawful and effectual. No such a compilation of facts and authorities upon this subject has ever before been undertaken. All shades of opinion will appear therein as expressed by their ablest exponents. But one edition will be published and the copies will soon be worth far more than their proposed cost. Your Committee makes this report and invites subscriptions to the work. No money is asked for now. As soon as enough subscriptions are received to pay for the cost of the book subscribers will be notified to send in their contributions. If not enough is promised no money will be received, and the manuscripts will be returned to their writers. Your prompt attention to the above is respectfully requested. Write to the Chairman of Committee, Dr. H. A. Moody, Mobile, Ala., stating amount of money you will subscribe and the number of copies you want.

Respectfully submitted,

H. A. Moody, L. E. Brooks, Erwin Craighead, Committee.

MOBILE, ALA., Feb. 24, 1898.

A Peculiar Transaction.—In our issue of Feb. 5 we published an article entitled "Five Years' Successful Experience with a Special Mode of Treating Pulmonary Tuberculosis," by Charles Wilson Ingraham of Binghamton, N. Y. We were not aware that it had any commercial value to the Doctor, but it seems that there was an "African in the woodpile," and we hereby apologize to our readers and other advertisers for having published it. It is only simple justice to say that nothing in the original suggested that it was an advertisement under cover. The following is the reply to a reader who wrote the Doctor in regard to his "special method":

Dr. . . . , Madison, Wis.—*Dear Doctor:*—Your recent communication was duly received and I take pleasure in responding to the same. I thank you for words of appreciation you have expressed concerning the practical aspect of the mode of treating tuberculosis as advocated in my article recently published in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. In your letter you requested that I forward you a supply of the compound iodine solution as prepared by myself, and if necessary a hypodermic syringe for the administration of the injections. I would much have preferred to quote you terms and later forward you a definite order, but thinking that the delay would be perhaps disappointing, I have already sent to you the "Introductory Order," which nine out of ten physicians order, and which gives you benefits which do not come with an order made under different conditions. In the 32-page circular which has been mailed you is a list of special hypodermic instruments (p. 28) which are required in order to properly administer the compound. The cost of these instruments almost invariably falls to the attending physician, and commencing with the current year, in response to a large number of requests for better introductory terms, the Bromine-Iodine Chemical Company of this city (Binghamton, N. Y.), general agents for the sale of the compound, decided to send with each introductory order of ten ounces, involving a cost of $15, the complete hypodermic instrument outfit gratis. I should have stated first that the compound is put up for sale only in one-ounce bottles, and is sold at $1.50 per ounce. Ten ounces is the average amount required in the treatment of either pulmonary or laryngeal tuberculosis. The average length of treatment is four months, and this creates a cost of less than $1 per week for the remedy, which is within the reach of all invalids.

The *injections* are *administered once daily*. The maximum daily dose is one dram. The injections, as stated in the article in the JOURNAL, are attended with no pain, excepting the puncture of the hypodermic needle, and the most delicate and sensitive invalids can take the treatments.

Since the publication of my first article descriptive of the treatment of tuberculosis with bromine-iodine compound, which appeared in the *Amer. Med.-Surg. Bull.*, March 15, 1895, nearly three years ago, the compound has been widely used in every State of the Union, and the results which I have reported have been repeatedly duplicated and better by general practitioners. I have every confidence that you will secure very pleasing results from the treatment, both as concerns percentages of recoveries and permanency of recovery. I shall be very glad to correspond with you further at any future time, and to advise with you by correspondence whenever my advice can be of service. As you have requested, I enclose bill herewith. Fraternally yours,

CHARLES WILSON INGRAHAM, M.D.

Dr. . . . , Madison, Wis.,

To Dr. Charles Wilson Ingraham, Binghamton, N. Y., Dr.

Ten ounce bromine-iodine compound at $1.50.	$15.00
Special hypodermic instruments, complete	5.00
	$20.00
Credit special introductory discount on 10 oz. orders . .	5.00
Balance	$15.00

It is needless to add that the physician to whom this was sent promptly returned the "compound."

Malarial Hemoglobinuria.—Bastianelli, in *Annali di Medicina*, has recently contributed an excellent article upon malarial hemoglobinuria, based not only upon the cases observed in Rome, but upon the careful analysis of the work of others. He asserts that it is practically proved that hemoglobinuria occurs only in infections with the estivo-autumnal parasite. An interesting point is that hemoglobinuria following quinin is extremely rare in Italy, no case having ever been reported from the Campagna. The frequency with which these cases occurs increases, just as in cases of spontaneous hemoglobinuria, as one passes south. Hemoglobinuria due to quinin never occurs excepting in patients who are suffering or who have recently suffered from malarial fever. Spontaneous hemoglobinuria may be at times intermittent, or, as is more common, in single paroxysms. He divides the spontaneous hemoglobinurias into three classes: 1. In the blood there are found estivo-autumnal parasites of the pyrogenic cycle, that is, young hyaline forms. Here the hemoglobinuria occurs regularly in association with the segmentation of a group of parasites, that is, at the time of the ordinary paroxysm. This he terms the paroxysmal hemoglobinuria. 2. In the blood there are found only crescentic or ovoid bodies and pigmented leucocytes, or possibly pigmented leucocytes alone. Sometimes at postmortem the blood is quite negative as regard parasites. They may also be wanting in the internal organs, but from the intravascular melanosis it may be seen that the parasites have disappeared quite recently. In this class the paroxysm of hemoglobinuria is caused by the segmentation of a group of parasites which disappear spontaneously during the attack. The changes left in the blood and internal organs, however, are so great that the paroxysm continues for hours after the organisms have disappeared from the blood. 3. The blood examination is entirely negative, and the only evidence of there having been a malarial infection is the presence of an endothelial, perilobular, perivascular melanosis. The malarial process has come to an end some time previously. Here the attack of spontaneous hemoglobinuria does not depend upon the presence of parasites, but starts without apparent cause. Such paroxysms may be intermittent and repeated at short intervals, but are more commonly single, of long duration and very severe. This form is especially grave and is the "pernicious hemoglobinuria" of Marchiafava, while Bastianelli calls it the post-malarial hemoglobinuria. In all probability the parasites which produce the febrile paroxysm play an important causative part in some cases. An anemic condition of the blood, however, seems to be indispensable for the production of the phenomenon, as hemoglobinuria does not occur with the first paroxysm, either in the initial attack or in a relapse. It is rare under any circumstances in the first attack, usually occurring with the first relapse or after repeated relapses. There is also in some cases an individual pre-disposition. Hemoglobinuria does not occur in the most chronic cases of malaria, in those cases where a certain equilibrium is established between the needs of the organism and the function of the hematopoietic organs, but in those cases where the organism is yet freeing itself from the residue of the infection and anemia and melanosis still exist. Bastianelli finally takes up the hemoglobinuria due to quinin. He asserts that: 1. It occurs only in individuals in whom a malarial infection has preceded. 2. The attack is produced constantly every time that quinin is administered, whether it is given while the malarial attack is in progress, or whether it is given while the malarial infection has run its course. 3. Extremely small doses are capable of bringing on an attack. 4. It has been seen in patients who have already suffered from spontaneous hemoglobinuria. It is rare, excepting in the tropics. No doubt there exist cases of hemoglobinuria due distinctly to the administration of quinin.—*Amer. Jour. Med. Science.*

Pittsburg.—It is a matter of some surprise to the general reader to find that Pittsburg is one of the most prominent medical centers, outside the great seaboard towns of the country. This city has a population of over six hundred thousand, and with the towns and villages tributary to it, within a circle of thirty or forty miles, there are nearly a million and a half of people. As a large number of these people are engaged in mining, iron and glass manufacturing, railroading, and water navigation, the surgical work required is immense. In Pittsburg there are fifteen hospitals for the care of acute and emergency cases alone, beside the usual homes for old chronic incurable cases. Only five dispensaries are giving free service to the poor. Of the hospitals the surgical wards are the most prominent. In the West Pennsylvania Hospital, over twelve hundred of two thousand cases were surgical. In the other hospitals the proportion is still larger. The medical cases do not differ from those in other sections, except perhaps in the number of persons of foreign birth, who either display very low vitality or unusual vigor and strength. The air of the vicinity charged with carbon seems not to make any marked difference in the progress of disease. Formerly, Pittsburg was nearly all the time enveloped in a gray cloud of carbon smoke, from the furnaces and mills burning bituminous coal. The use of natural gas changed this, but recently the decline of the gas brings back the old carbon clouds. The postmortems reveal dark discolored lungs in all persons who are residents of the city. It is the opinion of many physicians that this carbon dust is antiseptic, and destructive to many forms of dangerous bacteria. The specialists do not think any marked influence comes from this smoke dust. All of these hospitals have large surgical staffs, and the variety and magnitude of the operations are not exceeded in any city of this country. The Western Pennsylvania Medical College is near the West Pennsylvania Hospital, and the students have rare opportunities to see these cases. This college has a graded three years' course, with a high standard for admission, and averages over three hundred students, with a faculty of professors and assistants, numbering nearly fifty. The building and appointments are modern and the laboratories seem to be well equipped and popular. An outdoor clinic and free dispensary connected with the college, is said to have over ten thousand patients a year. This college is a part of the Western University, and the good judgment of the profession is commendable in most loyally supporting it, rather than organizing rival colleges. The numerous hospitals are many of them sectarian, although the medical staffs are

liberal and generous to each other. Important operations are performed and witnessed by all the hospital staffs, without rivalry or feeling. The West Pennsylvania Hospital is the largest and the South Side Hospital the most modern. The others are good and well managed. The Alleghany County Medical Society is the largest, having a membership of over three hundred. The Academy of Medicine is select and follows the same course as the New York Academy of Medicine or the College of Physicians and Surgeons in Philadelphia, requiring a paper or thesis from all proposed members. The South Side Medical Society is popular and has a large membership.

The mania for medical journals has concentrated in the *Pennsylvania State Medical Journal*, edited by a committee with much ability. This city seems not to be particularly overcrowded. Six hundred physicians of all schools are able to do the medical work. Many of these physicians are well-known members and writers of excellent papers read at the AMERICAN MEDICAL ASSOCIATION meetings. Of these, Drs. Duff, Thomas and others are well known for their surgical studies. Drs. Daley, Lang, Davis and many others are well known as contributors of excellent papers on medicine. Of the specialists, Drs. Ayers, Barham, Diller, McKennan, and others equally noted are prominent. Probably no city in the Union has more practical capable surgeons who are doing all-round surgical work, day after day in a quiet unassuming way, almost unknown to the world abroad. The modern operating-rooms of all the hospitals and the equipments for the best medical and surgical work prove this. In medicine the same thing may be said, the exceedingly practical suggestions and opinions expressed in the discussions of papers at the society meetings, indicate wide reading and intimate acquaintance with the progress of science.

The Academy of Medicine has accumulated a very respectable library and reading-room, which is growing rapidly. The South Side Medical Society has also the beginning of a library and many physicians have large and very valuable collection of books. It is a pleasure to note that while Pittsburg has many local pecularities, differing from other cities, the profession are loyal to each other, and united on broad principles of science and act together with great harmony. It is also a pleasure to note the absence of low commercial rivalry, which fosters free dispensaries, medical colleges, and advertising journals, dividing the profession into hostile factions. It may also be said by way of criticism, that a body of medical men, whose culture and experience is equal to that of any other city should be more widely known, not only in the literature of medicine, but by a larger representation in the AMERICAN MEDICAL ASSOCIATION.

Illinois Diploma Mills.—The following correspondence by the Secretary of the Illinois State Board of Health is self explanatory:

OFFICE OF THE SECRETARY,
SPRINGFIELD, ILL., Dec. 28, 1897.

Hon. E. C. AKIN, Attorney General, Springfield, Ill.

Dear Sir:—For several months past inquiries have been received almost daily by the Secretary of State and this Board relative to the Independent Medical College of Chicago, and from all information obtainable it appeared that the concern was sending its so-called diplomas over the country to all who applied and tendered the necessary fee. Further inquiry and investigation developed the fact that its methods were almost identical with those of the Illinois Health University, a diploma mill, the charter of which was revoked by the Supreme Court early during the present year, on account of fraud, and furthermore that the "faculty" of both institutions was one and the same person. It seems that after the Circuit Court of Cook County entered a judgment of ouster against the Illinois Health University, the President of that concern, who was also one of the incorporators, with two other "professors" in the corps of teachers, obtained another charter enabling them to carry on a business which the Circuit Court had just determined fraudulent, which decision was afterward affirmed by the Supreme Court. This charter permitted them to grant to students and applicants any degree whatsoever, and it is unnecessary to add that they have vigorously availed themselves of the privilege. "Degrees" of Doctor of Medicine have been granted to incompetent and unqualified persons ignorant of the rudiments of medicine and the same degrees have made these ignorant and frequently unscrupulous persons lawful practitioners of medicine in several States in the Union, where registering a diploma from a "legally chartered medical college" was the only legal qualification. This obnoxious graduation of quackery into full-fledged doctors of medicine, breathing death and destruction wherever they go, and doing no good to any class of people on earth, except grave-diggers and undertakers, robbing boats of good roustabouts, livery stables of hostlers and barber shops of barbers, to use the words of a former Attorney-General in regard to the Illinois Health University, has brought deep reproach upon the State among others of the Union, and particularly abroad, where the infamous proceedings of this and a few other legally chartered institutions of the same ilk, have lowered the standard of diplomas issued by Illinois medical colleges of good standing, and has caused even those from institutions of the highest grade in the State, which are justly classed among the leading colleges of the country, to be regarded with suspicion.

I deem it unnecessary to add that neither the "professors" or promoters in either the Independent or the parent concern, are legally qualified physicians, or physicians even, to the knowledge of this Board. The President is understood to have a diploma dated 1892 from a college in Indiana which became extinct in 1890, but Polk's Directory, the authority on such matters in the United States, is silent on the subject of his alma mater.

As an illustration of how the "college" grants diplomas to "applicants," I desire to call your attention to one issued to A. H. Neiss, a hostler to a physician in Williamsport, Pennsylvania, which with the entire correspondence and Mr. Neiss' affidavit is enclosed herewith. As you can easily see, Mr. Neiss' entire qualifications were a prescription for tetter and one for piles, and $25 in cash. Incredible as it may seem Doctor Neiss, for he is a doctor from a legally chartered medical college in Illinois, and according to the privileges granted by this said charter should have the right to practice medicine in Illinois—can register his diploma and legally and lawfully practice medicine, perform surgical operations of all kinds in the neighboring State of Michigan (in Wisconsin also up to July 1, 1897), and in several States and Territories of the Union, where licenses are issued to graduates of legally chartered medical colleges, notwithstanding that he has no further knowledge of medicine and surgery than that which can be obtained after an attendance of two years in a physician's stable.

I have heard it said that graduates from these so-called medical colleges are legally authorized to commit murder, and while the remark may not have full justification, I very much doubt whether the people of the States and Territories in which persons having no knowledge whatever of the science of medicine, or of the human body in disease, can practice and trifle with the lives and health of the community, by the grace of a charter issued under the authority of the State of Illinois, will feel disposed to dispute the correctness of the statement. In either case, there is every reason to believe that these people, who are now helpless against the invasion of this horde of quacks, will be inclined to regard such charter in the nature of a burlesque, equivalent in effect to one which would empower a lunatic to don a uniform, equip himself with a revolver and club, and act as an officer of the law.

If there be no law in the State providing for the cancellation of the charter of a corporation which is transacting fraudulent business, I would respectfully recommend that you at once take whatever steps are necessary to have the charter of the Independent Medical College revoked by the Courts.

Very respectfully,
(Signed) J. A. EGAN, M.D., Secretary.

Enclosures: Diploma, affidavit, two letters from Independent Medical College, with envelopes, copies of two letters written by Neiss, translation of diploma, circulars, etc., from College (one of these formerly used by the Illinois Health University).

OFFICE OF THE SECRETARY.
SPRINGFIELD, ILL., Dec. 27, 1897.

HON. JAMES A. ROSE, Secretary of State, Springfield, Ill.

Dear Sir:—For years past this State has been disgraced by the presence of diploma mills masquerading under the designation of colleges, universities, academies, etc., which openly and brazenly have conferred almost every degree obtainable in reputable colleges and universities, to all who applied either in person at the institutions, or by letter from wheresoever on the inhabitable globe the applicant might abide, the only requisite qualification being the possession of the necessary

fees. Degrees of Doctor of Medicine have been conferred on ignorant and frequently unscrupulous persons entirely unacquainted with even the rudiments of medicine, many of whom never saw a medical college or heard a medical term, and these same persons, have become legally qualified physicians in several States of the Union, by simply registering their diplomas with the County Clerk, and in others, on obtaining a certificate from the State Board of Health, the issuance of which was mandatory, the applicants being from "legally chartered medical colleges."

This obnoxious graduation of quackery into full fledged Doctors of Medicine, breathing death and destruction wherever they go, and doing no good to any class of people upon earth excepting grave-diggers and undertakers, to use the words of the former Attorney General, to the deep reproach of this State, has been legal, each and every institution concerned and this fraud in law and fact having a charter from the State, and incredible as it may seem, even the degree of Doctor of Medicine granted by many of these corporations (some of which have not even one physician among their incorporators) to persons in Germany, Japan and Australia, who have never left their native soil, are technically as valid as those issued at the college after an attendance and compliance with certain requirements, for many charters permitted degrees of all kinds to be conferred in presence or in absence.

To illustrate the laxity with which charters have been issued, and with what facility individuals convicted of a crime are able to obtain legal authority to go forth and commit the identical crime over again, I will call your attention to the case of Illinois Health University, an institution now happily defunct. During its existence, it was a diploma mill of the most flagrant character and one that caused the utmost disgrace to the State throughout the Union. The Attorney General of the State proceeded against the concern for revocation of its charter. The Circuit Court of Cook County, after considering the evidence, entered the judgment of ouster, and the "university" thereupon appealed to the Supreme Court. Pending the decision of this body, the president of the so-called university, who was one of the incorporators, with two members of the "faculty," procured from the Secretary of State another charter, which in short permitted them to reopen the now practically closed institution, under another name, The Independent Medical College, for almost precisely the same purpose, but however, with greater power, the college now being lawfully entitled to confer any degree, which degrees in medicine, pharmacy, etc., entitled the holders "to all rights and privileges in this and other States to which students and graduates are entitled who receive diplomas from other medical colleges, universities and institutions, in the State of Illinois." Comment on this outrageous privilege is unnecessary.

The Independent Medical College is a worthy successor of its sire. If such were possible it is a ranker diploma mill. "Degrees" are sent broadcast over the world to all who apply.

The Attorney General having cognizance of these unlawful proceedings is about to take steps to have the concern's charter revoked, and order that the promotors of this and the parent institution, may not re-open the concern under a new name and a new charter, conferring even additional powers, I would respectfully ask that you issue no further charters conferring upon any person or persons the right to conduct a medical college, or to grant the degree of Doctor of Medicine, or any miscellaneous degree, without first permitting this Board to give an opinion on the application.

Very respectfully,
J. A. EGAN, M.D., Secretary.

OFFICE OF THE SECRETARY,
SPRINGFIELD, ILL., Dec. 27, 1897.

Hon. JAMES A. ROSE, Secretary of State, Springfield, Ill.

Dear Sir:—I have the honor to request that you will not issue any further charters to persons or corporations for the purpose of treating disease or the prescribing of medicine, until a Court of competent jurisdiction decides that it is lawful for persons not possessing the qualifications required by the Act to Regulate the Practice of Medicine in the State, to prescribe for and treat others.

In this connection I will respectfully invite your attention to a communication from the Attorney General to your office under date of Aug. 24, 1893, in relation to the protest of this Board against the incorporation of certain companies, in which the following remarks occur:

. . . . . "We are of the opinion that the incorporation of companies for the treatment of diseases, etc., and the prescribing and the dispensing of medicines are of doubtful expediency and should not be encouraged. We advise you, therefore, to withhold the license until you are compelled to issue it by the judgment and order of a competent Court.

"Our reasons for these conclusions are that for the treatment of diseases and practice of surgery, none but persons learned in these professions and licensed under the law are permitted to act. The same applies to the prescribing and dispensing of medicines. This appertains expressly to the profession of the physician, of the surgeon and of the apothecary, which are classified among the learned professions. Under the law we fail to see how a corporation can be licensed to practice one of these professions in the State of Illinois, and to grant a franchise for this purpose we regard equivalent to granting a license."

At present there are several companies in the State legally chartered for the purpose of dispensing and prescribing medicine and treating disease, among the incorporators of which not a legally qualified physician appears. Comment on this state of affairs is unnecessary. Even if the names of licensed physicians appeared in the list of incorporators, there would seem little justification for issuing the charter, as it clothes others not qualified with equal power.

Very respectfully,
(Signed), J. A. EGAN, M.D., Sec'y.

Societies.

The following meetings are noted:

Illinois.—Chicago Medical Society, March 9.

Michigan.—Saginaw County Medical Society, Saginaw, March 11.

Missouri.—City Hospital Medical Society, March 3; St. Louis Medical Society of Missouri, March 5.

New York.—Chemung County Medical Society, Elmira, February 22; New York County Medical Society, New York City, February 28.

Ohio.—Cleveland Medical Society, February 25.

Tennessee.—Dickson County Medical Association, Dickson, March 1.

Texas.—The Lavoca County Medical Society was organized, Halletsville, March 8.

Virginia.—Richmond Academy of Medicine and Surgery, February 23.

Louisville.

SMALLPOX.—Smallpox has been raging in Middlesboro, in the southern portion of the State, and at Jellico. The epidemic has been very mild in character, and almost exclusively confined to the very poorest classes. Dr. J. N. McCormack, Secretary of the State Board of Health, has been on the field in person, assisted by Dr. Arthur McCormack of Bowling Green, and Dr. B. W. Smock of Louisville. General vaccination has been performed under compulsion, a number of cases being found by the officers, in the rounds of house to house vaccinations, which had not been reported at all. Latest advices show that the worst is over, there having been erected detention hospitals and pest-houses which had not been in use before the State Board of Health were notified.

OSTEOPATHS.—Once more Kentucky has come to the front with legislation looking toward the prevention of quackery in the State by passing in both houses of the Legislature a bill which is an amendment to the practice act now in force which will make all applicants to practice osteopathy stand an examination before the State Board. There was a bitter fight in the House against the bill and a whole day was spent in speech making, but the bill was passed by a safe majority and will go to the Governor, who will promptly sign it. The opponents of the bill recognize the fact, that practice in the State will be prohibited graduates of the Still college under this law.

FEBRUARY DEATHS.—There was a total death-rate of 255 against 267 for the corresponding month last year. Consumption caused 33, typhoid fever 12, pneumonia 46, old age 14.

LICENSE.—A bill has just been passed by both boards of the common council taxing physicians a yearly license of $10. This bill also includes midwives who will have to pay their license fee before being allowed to practice, at the same rate, $10.

Washington.

HEALTH OF THE DISTRICT.—Report of the Health Officer for the week ended February 26, shows the total number of deaths to have been 105, of which number 66 were white and 39 colored. The principal causes of death were: Diseases of the nervous system, 13; circulatory, 13, respiratory, 24. There were 2

fatal cases of diphtheria, 3 of la grippe, 1 of typhoid fever and 1 of measles. At the close of the week there were 52 cases of scarlet fever in 36 premises and 34 cases of diphtheria in 32 premises, under treatment and isolation.

COLUMBIAN UNIVERSITY HOSPITAL.—The "Columbian Women" held a special meeting at the University building on the 28th instant, to meet the faculty of the medical department for the purpose of organizing a plan for raising funds to furnish the new hospital of the University. Plans were advanced and discussed by Drs. A. F. A. King, W. P. Carr, D. K. Shute, President Whitman and Dr. S. H. Green. A special committee for that purpose was appointed, consisting of Mrs. D. C. W. Richardson, Mrs. President Whitman, Mrs. D. Shute and others.

WASHINGTON OBSTETRICAL AND GYNECOLOGICAL SOCIETY.—The 277th meeting of the Society was held on the 4th instant at the residence of Rev. Dr. Cuthbert. The essay of the evening was read by Dr. Bovee, entitled "Permeability of Salpingectomy Stumps." The subject was discussed by Drs. Fry and Stone.

CENTRAL DISPENSARY AND EMERGENCY HOSPITAL.—At the recent meeting of the Attending Staff, the following report was presented for the month of February: New cases, 797; total visits, 2213; prescriptions, 2674; deaths, 3; postmortems, 2; emergency cases, 142; operations, 142; ambulance calls, 33. It was announced that the Senate Committee on appropriations had recommended the usual appropriation of $15,000 for maintenance, and $2,000 additional for improvements and repairs.

Cincinnati.

DR. LUDWIG BREMER of St. Louis was the guest of the Academy of Medicine, February 21. The Doctor demonstrated his interesting discoveries of the reaction of the blood of diabetic patients to aniline colors, which discovery by the way only brought the discoverer his well-earned fame years after when it was taken up and substantiated by German authorities. In addition to his experiments with methylene blue, which have been extensively printed, he also showed that Congo red and methyl violet are equally efficacious in proving the presence or absence of the disease; indeed, the essayist stated a personal preference for the Congo red. His experiments are made with dried blood obtained from the finger, smeared on glass slides, which are then heated to 135 degrees C. Macroscopic examination after several minutes staining, shows almost entire absence of color in the diabetic specimen, while with normal blood, control experiments being made simultaneously, a color is produced comparable to that of the eosin stain.

G. A. R.—In view of the great G. A. R. encampment to be held in this city during next September, the medical profession has already organized, under the directorship of Dr. J. C. Culbertson, editor of the *Lancet-Clinic*, for the care of such old soldiers as may be medically or surgically disabled during that week. The organization is of a strict military character, with a director general, medical inspectors, surgeons and assistant surgeons, and numbers in all fully three hundred of the representative physicians of the city. The medical inspectors are composed of those who acted in a medical capacity during the late war; the surgeons from the older, the assistant surgeons from the younger men of the profession. Every man is to be commissioned regularly from the board controlling, and all orders are given in regulation style directly from the medical director. At the various camps reliefs will be constantly stationed, as also at the different depots. Ambulance and emergency corps have been provided. The entire corps will be uniformed while on duty. At various points, drug stores for the most part, near which large crowds are expected to congregate, surgeons will be in waiting, and a yellow flag, the sign of medical attendance the world over, will be conspicuously displayed. Daily sick calls will be paid and records kept of such as require medical attention. A record will be made of this, as well as of all other work done, and it is the intention of the corps to publish as complete a report as possible of their transactions during encampment week. The woman's relief corps have expressed their willingness to cooperate with the medical profession and will be commissioned as nurses. The apothecaries have also volunteered their services as hospital stewards.

AT THE regular monthly meeting of the Original Research Society, held February 10, Dr. Horace Whitacre demonstrated, by microscopic sections and photo micrographs, the identity of clinically diagnosed gliomata of the retina with sarcomata. The slides showed conclusively the endothelial origin and sarcomatous nature of the tumors presented. The essayist stated that the new growths were sent to him with the clinical diagnosis of glioma made by skilled oculists. The discussion which followed brought the general concurrence of the society with the speaker.

THE TRUSTEES of the Cincinnati Hospital held an adjourned meeting the afternoon of February 14, in which it was decided to at once draft a bill and present it to the legislature, asking privilege to issue $250,000 in bonds, the same to be used in buying land and erecting an isolated hospital for contagious diseases. The matter was brought up before the Cincinnati Academy of Medicine that evening and met with the heartiest endorsement.

BY THE ORDERS of the city health officer, the consumptive patients at the city infirmary, for the most part cases of fibroid phthisis, are to be removed to the branch consumptive hospital on proving their citizenship to Cincinnati.

THE BOARD OF ADMINISTRATION of Cincinnati has passed an ordinance empowering the health officer to make all the necessary investigations for the purpose of detecting the presence of tuberculosis in dairy cows, with a view to eventually stamping out the disease. With the completion of these investigations, it is the intention of the health officer to introduce a bill in the legislature providing for the removal of all tuberculous cows from dairies.

CHANGE OF ADDRESS.

Brown, E. J., from 69 Syndicate Block to 3027 Pleasant Ave., Minneapolis, Minn.
Eisendrath, D. N., from 3035 to 3125 Indiana Ave., Chicago, Ill.
Hansen, C. C., from Mosul, Turkey, to Chieng Mai, Laos, Siam.
Jensen, P. C., Manistee, Mich. to 100 Washington St., Chicago, Ill.;
Jones, C. H., from 25 W. Saratoga St. to 211 W. Franklin St., Baltimore.
Kirkpatrick, W. L., from Crab Tree, N. C. to Jameson, Texas.
Lathrop, W., from Miners Mills to Hazelton, Pa.; Luebbers, A., from 2001 N. Market to 1636 N. 19th St., St. Louis, Mo.
Nywall, A. G., from Batavia, Ill., to 87 N. 48th Ave, Chicago, Ill.
Perry, T. B., from Buffalo, N. Y. to San Francisco, Cal.
Wenzlick, W., from Chicago, Ill. to 3630 Flad Ave, St. Louis, Mo.;
Warner, A. L., from Hospital to Penfield, Ill.

LETTERS RECEIVED.

Alexander, L. C., Philadelphia, Pa.; Allen, J. B., Cambridge City, Ind.; Arsdale, W. J., Pittsburg, Pa.
Bradstreet, E. C., Gold Hill, Colo.; Brewster, Quincy E., Boston, Mass.; Burnett, J. A., Lewiston, O. T.
Chamberlain, C. L., Kinsman, Ohio; Chesman & Co., (2) Nelson, St. Louis, Mo.; Cox, Henry Waldo, Portland, Ore.; Cokenower, J. W., Des Moines, Iowa; Cryer, M. H., Philadelphia, Pa.
Daniel, R. F., Jacksonville, Fla.; Deems, B. B., St. Louis, Mo.; Denison, Chas., Denver, Colo.; Dunlap, P. G., Adger, Ala.
Ehrhardt, H., Louis, Mo.
Fairchild Bros. & Foster, New York, N. Y.; Fankboner, A. V., Indianapolis, Ind.
Graham, John W., Denver, Colo.
Herold, , New York, N. Y.; Horlbeck, H. B., Charleston, S. C.; Horwitz, Orville, Philadelphia, Pa.; Howle, W. P., Oran, Mo.
Larimer, W. T., Allegheny, Pa.; Lehn & Fink, New York, N. Y.
Mackin, M. C., Independence, Iowa; Martin, Harry H., Ashland, Ky.; McCormick, J. H., Gaithersburg, Md.
Newberry Library, The, Chicago, Ill.; New York Pharmacal Ass'n, Yonkers, N. Y.
Parke, Davis & Co., Detroit, Mich.; Polk, R. L. & Co., Detroit, Mich.
Sangree, E. B., Nashville, Tenn.; Schering & Glatz, New York, N. Y.; Shoemaker, John V., Philadelphia, Pa.; Starkey, Horace M., Chicago, Ill.; Stover, G. H., Denver, Colo.
Therapist, The, London, England; Thomas, C. P., Spokane, Wash.; Tyree, J. S., Washington, D. C.
United States and Canada Mercantile Agency, Chicago, Ill.
Wampole & Co., H. K., Philadelphia, Pa.

THE PUBLIC SERVICES.

Army Changes. Official List of Changes in the Stations and duties of officers serving in the Medical Department, U. S. Army, from February 26 to March 4, 1898.]

Major William C. Shannon, Surgeon, will upon the expiration of his present sick leave of absence, report in person to the president of the Army retiring board at San Francisco, Cal., for examination by the board. By direction of the President.

Navy Changes. Changes in the Medical Corps of the U. S. Navy for the week ending March 5, 1898.

Surgeon F. W. F. Wieber, detached from naval hospital, Norfolk, Va., and ordered to the "Miantonomoh" March 10.
Surgeon G. P. Lumsden, detached from special duty at Norfolk, Va., and ordered to the "Franklin."
P. A. Surgeon B. R. Ward, ordered to the "Katahdin" March 1.
P. A. Surgeon I. W. Kite, detached from the "Franklin" and ordered to the naval hospital, Norfolk, Va.